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Health Expenditure and Finance in Three Poor Counties of China

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Collaborative Work Programme

Preliminary material and interim research results circulated to stimulate discussion and critical comment

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HEALTH EXPENDITURE AND FINANCE IN THREE POOR COUNTIES OF CHINA

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INTRODUCTION

The School of Public Health of the Shanghai Medical University (SMU) and the Institute of Development Studies (IDS) are collaborating in a programme of research on rural health finance in China. The programme was developed in consultation with the Department of Health Policy and Law of the Ministry of Public Health (MoPH). The aim is to contribute to the formulation of strategies for financing health services in poor areas that make it possible for them to provide access for all, including the poor, to prevention and basic curative care at reasonable cost.

During 1992 and 1993 the team analysed the data from a 20-county survey of health utilisation and expenditure that was carried out by the SMU during 1988. The findings have been published in Chinese, in a collection of articles in the May 1994 issue of *Health Economics Research* and in English in IDS Research Report no. 26.

The second phase of the programme concentrates on the special problems of health services in poor rural areas. It began in 1993 and is scheduled to end in 1997. The work focuses on three case studies. The reason for limiting the geographical scope of the study is that the situation is changing so rapidly in China, that the findings of large scale surveys rapidly become obsolete. Policy makers at national level have little knowledge about what is happening on the ground, particularly in poor, relatively inaccessible counties. The aim of the programme is to gain an insight into the changes that are taking place and to identify the factors that have to be taken into account in assessing the likely outcome of a change in the system of health finance. This will make it possible for the research team to assist in the formulation of realistic policies for rural health finance.

The Health Departments of three provinces, Guangxi, Guizhou and Shaanxi are participating in the programme, and research institutions in each province are collaborating in the field work and data analysis. One county has been selected in each province (Donglan, Shibing and Xunyi). All three county governments have expressed an interest in developing strategies for improving health sector finance, and the health bureau of each county has nominated officers to participate in the research.

During 1993 and 1994, diagnostic studies were designed and carried out in the three study counties. The major findings have been reported to the county governments and two of the counties have agreed to develop experimental health prepayment schemes, in collaboration with the research team. In addition, a series of workshops were held with national level policy makers, senior researchers and managers of provincial and county health services. These meetings had two aims. Firstly, they provided an opportunity to consult with experienced personnel on the design of the research studies and to feed back to them the research findings. Secondly, they provided a forum for the presentation of papers by county level managers. These papers identified problems and outlined strategies that have been taken to overcome them.

The research instruments for the county diagnostic studies were designed collaboratively by researchers from SMU and IDS. The sources of data included:

- routine reports from the county statistics bureau,
- routine financial data from the county government,
- financial and health service delivery data from all county-level health facilities,

- routine financial data from a sample of townships,
- structured interviews with key informants in the county government and county and township level health facilities, and
- focus group discussions with health workers and users of health services.

Each county diagnostic study was carried out by a team that included researchers from Shanghai and the provincial research institute. Each team prepared a draft report, in collaboration with researchers from the IDS. All three county report team leaders participated in a meeting at the IDS, during which the reports were finalised. This working paper provides edited versions of those reports, and is primarily intended to make more widely available the wealth of data which they contain.

FINANCING RURAL HEALTH SERVICES IN CHINA:
Donglan County, Guangxi Province

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1. Background

1.1 Geography

Donglan county is a remote old revolutionary zone located in the north west part of Guangxi Province, 300 km north of Nannin, the capital town of Guangxi. The total land area is 2,465 sq km, of which 94% is classified as moutainous. The main agriculture products in Donglan are rice and corn, and the most important economic products are oil-tea, oranges and nuts.

1.2 Population

The population in 1992 was 271,986, with a population density of 112 per sq km. During the 1970s and 80s the growth of population in Donglan county was very fast. The birth rate in 1988 was 24 per 1000 and the death rate 7 per 1000, giving an annual population growth rate of 17 per 1000. In recent years the family planning programme has achieved a significant outcome due to effective control by the government and the Communist Party. By 1992 the birth rate had been reduced to around 11 per 1000, and the death rate to around 7 per 1000. (Note: these figures are reported by the county police bureau and the county family planning committee, and the number of births may have been under-reported.). In the fourth national census (1990), the total population was given as 270,886. There are twelve recognised ethnic minorities, with the Chang minority accounting for 85%. Some 94% of the population are engaged in agriculture.

Table 1: Age structure of the population.

Age Group	Percent
<1	2.0
1-4	9.6
5-6	6.0
7-14	20.9
15-49	47.0
50-64	8.6
65+	5.9

Source: The fourth national census 1990

Table 1a shows numbers of population, households and peasants in Donglan county in the last three years. It also indicates that about 95% of the county population live in rural area. The decline of the population in 1992 was due to emigration resulted from construction of a hydro-electric power station.

Table 1a: Population of Donglan County in Selected Years

Year	population	households	peasants	% population
1990	273,472	53,891	257,871	94.3
1991	274,569	55,735	258,836	94.3
1992	271,986	55,609	256,115	94.2

Source: Donglan county statistics bureau

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The Illiteracy rate (over 6 years of age) is 36.5%. Around 42% have primary education, 15% junior high and 0.4% are college or university graduates.

1.3 Administrative organisation

In March 1993 the regional autonomous government approved that Donglan county adjusted its administrative structure comprising 2 towns, 21 townships, 148 administrative villages and 2,979 village groups.

1.4 Economic situation

Since liberation in 1949, and in particular since the recent economic reforms, the county economy has experienced considerable growth. However, due to poor transportation and communications, and certain historic factors discussed below, the speed of development has not been as fast as in other areas. The majority of the population are still living below the poverty line. In 1985, Donglan was classified by the central government as a very poor county, i.e. one with average annual income per capita of less than 200 yuan and average annual food intake per capita of less than 100 kg. In 1992, the average annual income per capita in Donglan was 326 yuan. At that time the national poverty line was based on an average annual income per capita of 350 yuan and an average annual food intake per capita of 200 kg.

Table 2: Total GNP and GNP per capita

	1990	1991	1992
GNP (¥10,000)	15,586	17,469	18,708
GNP per capita (¥)	569.9	636.5	687.8

Source: The Statistical Report on Economic and Social Development in Donglan 1991
The Statistical Report on Economic and Social Development in Donglan 1992

The real GNP growth rate calculated from table 2b is 2.6% per annum. For comparison, the corresponding rate for China as a whole was about 12% in 1992, an indication of the extent to which economic growth in Donglan has lagged behind the rest of the country. It is perhaps of even greater concern that total agricultural output was lower in 1992 than in 1991.

Table 2a: Trends in GNP

	1990	1991	1992
GNP (¥10,000)	15,586	17,469	18,708
Growth rate (%)		11.2	7.1
GNP per capita (¥)	569.9	636.5	687.8

Source: The Statistical Report on Economic and Social Development in Donglan County 1992

Table 2b: Trends in GNP in Constant (1990) Prices

	1990	1991	1992
GNP	15,586	16,621	16,396
Growth rate (%)		6.7	-1.4
GNP per capita	569.9	605.6	602.8

Source: The Statistical Report on Economic and Social Development in Donglan County 1992

Donglan county's industrial and agricultural production base has been historically weak. Before liberation in 1949 there was only one manufacturer in the county and a few small-scale industries. Over the period 1949-1985, the central government invested 9 million yuan, an average 250,000 yuan per annum. Since 1986, Donglan has relied on bank loans, anti-poverty funding and the government appropriation for industrial investment. Over the last 7 years, total investment has amounted to 60 million yuan, and this has lead to a considerable increase in the value of industrial production in recent years. In 1992 the total value was 94 million yuan, of which 10.5 million

came from village and township enterprises. Unfortunately, in general, the efficiency and effectiveness of these manufacturers has been very poor and they do not contribute substantially to local government revenues. For example, in 1992 the county government received less than 2 million yuan tax from these state-owned enterprises while allocated 10 million yuan in subsidies to them. However, the village and township enterprises generated 1.1 million tax and profits.

Table 3: Village and Township Enterprises

Year	1990	1991	1992
No. of enterprises	93	89	89
township			48
village			41
No. of employees	1,217	905	814
township			607
village			207
Total output (10,000)	667	867	1,050
township			851
village			199
Tax/profit (10,000)	50	64	110
township			87
village			23
Income per employee			2,223
township			2,257
village			1,642

Source: The Statistical Report on Economic and Social Development in Donglan 1991
The Statistical Report on Economic and Social Development in Donglan 1992

In the rural areas the population is mainly engaged in agriculture production. In 1992, the total value of agricultural output was 136 million yuan, comprising:

agriculture products 62.5 million (46%)
forestry products 20.9 million (15%)
livestock products 42.4 million (31%)
other products 9.8 million (7%)

Table 4: Average Rural Incomes and Levies on Peasants

Year	1990	1991	1992
Per Capita Income	268	299	326
-household	262	292	312
-collectives	0	0	0
-other	6	7	14
Food per capita	328	370	344
Levies	63	64	66
- state	17	18	18
- collective	11	11	12
- other	35	35	36
Per Capita expenditure	270	301	328
- health services	16	16	17

Source: Donglan county statistical bureau

It can been seen from table 4 that , among about 250 thousand population in Donglan, the per capita rural income has increased somewhat in recent years. However, levies by government at various levels have also increased steadily and now considerably exceed the upper limit of 5% of

average income specified by the state council. For instance, in 1992 these levies amounted to 65 yuan per capita, 20% of average income. Of this, 18 yuan (state tax) went to central government, 12 yuan to local collectives for paying salary of village cadres, contributing village welfare funds and supporting public sector at village and township levels and 36 yuan for other public services (e.g. National Defence, Education, etc). In addition, it was reported by the rural sampling team in Donglan that the expenditure of health services including payment of the services provided by health facilities and purchase of drug and other health related products costed 17 yuan in 1992.

Based on the current poverty line defined by central government, 18 townships out of 23 towns and townships in Donglan can be classified as poor. Of the 148 administrative villages, 132 were classified poor. Around 141,000 individuals or 55% of the rural population were classified poor.

Table 5a: County Government Income and Expenditure

	Income			Expenditure	Deficit
Year	Revenue	Transfers	Total		
1990	601.3	1,971.3	2,572.6	2,732.7	160.1
1991	835.1	1,670.0	2,505.1	2,621.3	116.2
1992	840.1	1,976.7	2,816.8	2,789.7	-

Source: Donglan county statistical bureau

Since the implementation of the financial responsibility system in 1988, the central or provincial government has allocated 9.5 million yuan per annum to subsidise Donglan county. However, it is obvious that this financial subsidy was not enough to support and maintain the activities of the county, the deficit has risen rapidly. From March 1992 the county government could not pay their employees regularly and had to use anti-poverty funds for this purpose. Under such circumstances it was clearly very difficult for the county to provide adequate funding for the health sector.

Tables 6a and 6b indicate that the anti-poverty programme has not been very successful. In 1992, the government allocated total funds of 10. 73 million to support development of the county. About 1.4 million of the central government appropriation was provided and not neccesarily repaid by the county government. 6.6 million of special loan with low interest came from the program supporting Old Liberated Zone, Minority Group, Boarding Areas and Poorest Regions. And 2.7 million of reliefing loan with no interests was also ready for application by the county. Unfortunately, as indicated in 'Developing the Economy of Donglan County: A Five Year Plan', most of this money has not been used because of few appropriate project submitted. As we understand from the key informant interview, any funds, whatever the appropriation, special loan with and without interests, before use of the money, had to be approved by upper level government that would carefully consider the project proposal. The funds spent were mainly for building basic productive and living facilities in Donglan county and providing peasants with loans for agricultural development.

Table 6a: Anti-Poverty Programme

	1992
- Households	49,614
- Population	256,115
Households in poverty	26,125
Population in poverty	141,067
- Households supported	1,972
- Population supported	9,780
- Households overcoming poverty	4,117
- Population overcoming poverty	21,904

Source: The Satistical Report on Economic and Social Development in Donglan 1992

Table 6b: Anti-Poverty Programme Funding

	1992
Special loan with low interest (¥10,000)	660
Special region's loan (¥10,000)	270
Appropriation from the state	142.84
Fund spent (¥10,000)	62
Agriculture (¥10,000)	24.2
- agriculture	3.6
- forest	20.6
- livestock	
Non-agriculture	
Others	37.8

Source: The Satistical Report on Economic and Social Development in Donglan 1992

1.5 Education and Culture

There are 157 primary schools in Donglan county, 12 in the county town and 145 in rural areas. To overcome transportation problems, about 127 primary schools have set up 695 posts in remote and mountainous areas. There are 13 junior high schools and 2 senior high schools. There is one vocational school in Donglan county with 193 students and 19 teachers.

1.6 Transportation and Comunications

Transport and communications are very difficult in Donglan. There are not railways passing through the county but unfortunately the railway station is around 130 km from the capital town. Many roads in Donglan are very rough. Some 48% of villages and one township in Donglan cannot be accessed by road. There are a very limited number of vehicles. There are also only 8 post offices.

1.7 Health status

The birth rate was 24 per 1000 in 1985, declining to 12 per 1000 in 1990. The death rate has also declined from 7.4 per 1000 in 1981 to 6.5 per 1000 in 1990. Based on the fourth national census, the life expectancy in 1990 was 67.6.

The official infant mortality rate and maternal death rate for 1991 cannot be relied upon, being based on routine reporting systems. County statistics indicate that infant mortality rates were around 10-20 per thousand, and reports from the MCH give a maternal death rate of 62 per 100,000. However, a survey of 1500 births in 1992 indicated that the actual infant mortality rate was around 92 per 1000 and the maternal death rate 973 per 100,000.

In recent years the reporting system for infectious disease has been considerably weakened by the closure of most village health stations in Donglan county. Estimates of the rates of infectious diseases reported by an anti-epidemic station are probably unreliable. The most prevalent condition was iodine deficiency with a rate of 5.8%. The main cause of this condition is thought to be the common practice of heating salt before adding it to food, reducing the iodine content.

2. The system of health services and management

2.1 The system of health services.

There are 7 health facilities at county level:

a. County general hospital
b. Traditional Chinese Medicine Hospital (TCMH)
c. Anti-Epidemic Station (AES)
d. MCH station

e. Dermatosis prevention station
f. Anti-epidemic disease station
g. Family Planning Station (FPS).

At township level there are 15 health centres (of which 2 are designated as key centres), 7 general health centres and 6 health stations. Only 8 out of 148 villages have health stations, 7 privately owned. In addition, township centres have 5 posts in villages, giving a total of 13 village health facilities.

The provincial health department and prefectural health bureau have a close relationship with Donglan county health bureau. The relationship is based on the provision of technical and administrative services, although the provincial health department sometimes allocates special funding to Donglan county health bureaux. For example, since1988, the provincial health department has provided some 400,000 yuan for repairs to health centres and the county general hospital, and for the purchase of medical equipment. The county anti-epidemic station also provided some funds for disease prevention.

The county Communist Party committee provides political leadership, and is responsible for defining priorities for health services and giving policy support to the health sector. The committee appoints the director of the county health bureau and the secretary-general of the county health bureau committee. The county people's congress discusses and makes policy decisions in health financing and health planning. The county government is responsible for financial and administrative planning in the health sector and appoints the deputy director of the county health bureau, the head of the county general hospital and leaders of other health facilities.

The county family planning committee oversees family planning activities. The county pharmaceutical administration bureau, also known as the county pharmaceutical company, is responsible for monitoring the purchase and use by health facilities and private practitioners of pharmaceutical products. The county primary health care committee, led by the deputy head of the county government, supervises health education, health planning, and family planning activities. It is responsible for developing policy on the implementation of primary health care. The county public service medical scheme (PSMS) office controls funds for the medical care of government employees. The county financing department allocates money to health sectors at the county level. Township health centres receive funding from township financial authorities. The county civil affairs department may provide assistance to very poor people to meet the cost of health care.

Health facilities at county level are lead by the county health bureau in terms of administration, technical supervision and personnel. The county family planning committee supervises family planning stations and posts at county, township and village levels. The relationship between the township health centre and the county health bureau is in terms of administration and technical supervision, with the township government taking responsibility for funding. In recent years, both the county and township governments have had considerable problems in meeting the cost of salaries and subsistence for their employees in health facilities. Township health centres supervise village health stations, and village administrative committees administer village health stations. Only one village, Bala, has a co-operative health care scheme. In 1991, the village gave 1,500 yuan to support this scheme.

2.3 Health care schemes

Public service medical scheme

Government employees and those who have retired from government institutions have access to the Public Service Medical Scheme. In 1992, 7,840 individuals were covered by the scheme, 2.6% of the population. Funding of the Public Service Medical Scheme is provided by the County Financing Department. Table 7 shows the number of the people covered by the scheme in the last decades and the associated expenditures.

Table 7: Public Services Medical Scheme 1981-1992

Year	1981	1985	1990	1991	1992
No.	4268	5486	6758	6896	7084
Expenditure (¥10,000)	14	38	48	50	66
Per capita expenditure	32.66	69.26	71.02	72.5	93.16

Source: The Office of the Public Service Medical Scheme of Donglan County

In 1987 a special office was established to take charge of the Public Service Medical Scheme. A number of reforms have been introduced: decentralisation; specification of medical treatments; the allocation of a fixed amount of money to individual institutions; the introduction of partial payment of medical costs by employees; and limitations on prescriptions.

Labour Insurance

Employees in state and most collective enterprises are covered by the labour insurance scheme. In 1992 the total number of people covered by the scheme was 4,638, 1.7% of the total population. Financing of the labour insurance scheme is derived from the public welfare fund of enterprises. Table 8 shows the number of people covered by labour insurance and associated expenditure in selected years.

Table 8: Labour Insurance Scheme in Donglan 1981-1992

Year	1981	1985	1990	1991	1992
No.	2207	2628	2621	3139	4638
Expenditure (¥10,000)	23	28	25	23	36
Per capita expenditure	104.21	106.54	95.38	73.27	77.62

Source: County Labour Bureau, County Commercial Bureau, County Bureau for Managing Township and Village Enterprises.

The basic structure of the labour insurance scheme is very similar to that of the public service medical scheme. However, the proportion of medical care costs provided by different enterprises varies a great deal depending on their financial position. Some enterprises not only covered employees' costs but also provided partial cover for dependants. However, many enterprises in Donglan are not performing well and only cover part of the costs of care for their employees. Since 1990 the expenditure on medical care per employee in these enterprises has decreased dramatically. In addition, workers doing contract or temporary work for enterprises are not covered by the labour insurance schemes.

Bala Cooperative Medical Care Scheme

Before 1980 every village had a cooperative medicare scheme. Since the implementation of the household responsibility system, these schemes have collapsed. In 1991, Bala village, with the support of the county health bureau, county hospital, the township government and township health centre, restored its co-operative medicare scheme, setting up a Cooperative Medicare Station. All villagers, around 1,525 individuals, participate in the scheme. The sources of finance were: a village enterprise which contributed 1,500 yuan; the county health bureau which provided some medical equipment; the township health center which lent a 1,000 yuan loan for drugs. In addition, every person in the village pre-paid one yuan per year. Some 24 poor households were not able to pay this fee and were subsidised by the village welfare fund.

The village station has 2 health workers, one male and one female, and stocks more than 100 types of drug. The peasants of this village only pay for drugs and injections. It is planned to subsidise drug costs if the village can find more sources of finance. People who visit the health station are allowed to delay payments for medical care and drug fees. However, all the costs of medical care at township, county and beyond, have to be paid by peasants themselves. Average expenditure per visit at the health station was around 1 yuan 50 cents. Average expenditure per person per year at the village level was 6 yuan 31 cents. It was reflected from the group discussions with peasants that some 20% of the peasants said they had difficulty in paying for health services provided.

In 1992 renewal of the village health station got cash income of 900 yuan, of which 60% was allocated to the incomes of village health workers, and 40% to a development fund. Peasants indicated that it was very convenient to have such health services available at the village level, saving on transport costs, and that they were happy with the health workers. The station also played a very important role in immunisation, mother and child health care and primary health care.

A number of problems were raised by villagers. Medical equipment at the health station was realtively simple and the variety of drugs was limited. The educational qualifications of health workers needed to be improved, and their income was lower than had been expected, to the extent that one had left the health station and the other spent half of their time on agriculture production. Finally, as indicated above, 20% of peasants were not able to pay for her services provided at village level.

Self-Payment

The population of Donglan in 1992 was 271,986. Of these, some 5% are covered by the public service medical scheme, labour insurance scheme or co-operative medical scheme. Table 9 shows the number of people who had to pay for health services, and their expenditures at township and county levels over the period 1990-1992. Effort was not made to estimate the expenditure of health services provided at village level and private clinics. Therefore, the expenditure shown in the table is by far lower than its real value, in fact.

Table 9: Self-payment for medical care 1990-1992

Year	1990	1991	1992
No.	261,507	263,005	258,739
Expenditure (¥10,000)	132.8	172.9	176.2
Per capita expenditure	5.08	6.57	6.81

Source: The data were estimated based on the reports of health facilities submitted to the county health bureau.

Table 10 shows that the average expenditure on health services by different groups population in the last decades. From this table it can be seen that the average expenditure per capital by the public service medical scheme was 14 times, 11 times and 13 times higher than that of the self-payment at county and township levels in 1990, 1991 and 1992 respectively. Again, the differentials between rural population and urban resients with the state insurance schemes may not be such a significance.

Table 10: Comparison of Medical Care Cost

Year	1990	1991	1992
PSMS (yuan) [1]	71	72	93

LIS	[2]	95	73	77
Self-payment	[3]	5	7	7
	[4]	16	16	17

Source: 1. PSMS data were provided by the office of PSMS;
2. LIS data were provided by county health bureaux.
3. Self-pay data estimated according to the routine reporting system at county and township levels;
4. Self-pay data estimated from a rural sampling survey comprising 100 households in rural Donglan

The supply and distribution of drugs

There is a combined pharmaceutical company/pharmaceutical administrative bureau in Donglan. The pharmaceutical company supplies drugs to health institutions and private practitioners. About 75% of drugs came from the pharmaceutical company, while 25% are directly purchased from pharmaceutical manufacturers. In order to maintain the quality of drugs the pharmaceutical company will in general not purchase from private producers and providers. In Donglan there is one pharmaceutical factory which produces about 15 kinds of drug, including some antibiotics.

Half of the feedback of this pharmaceutical manufacturer was sold to the county pharmaceutical company. The pharmaceutical company has contracts with health institutes at various levels. The county hospital purchases 70% of drugs from the county pharmaceutical company and 30% from the pharmaceutical manufacturer and other sources. The county pharmaceutical company store more than one thousand kinds of western drugs and Chinese herbal medicines.

In 1992, the pharmaceutical company had income of 2.4 million yuan, of which 81% came from western drugs, 17% from manufactured Chinese herbs, and 2% from Chinese herbs. The mark up between the pharmaceutical company and pharmaceutical manufacturers is about 20%. That between the wholesaler and retailer is about 15%. In 1992 the county pharmaceutical company paid tax to the government totalling 150,00 yens, and had profits of some 38-40,000 yuans.

Table 11: Mark-up Rates on Drugs in Facilities

Year	1981	1985	1990	1991	1992
County Hospital	23.53	17.24	16.92	14.67	20.29
TCMH				16.67	16.67
THCs	16.44	8.41	16.95	11.27	15.73

Source: Donglan county health bureau

In recent years the prices of drugs has increased dramatically, putting increased financial pressures on peasants who seek medical care. Table 12 indicates price increases for three common drugs.

Table 12: Prices of Selected Common Drugs 1989/1993

Year	1989	1993	Increase %
Cold Killer (10 tablets)	0.54	0.87	61.1
Penicillin (80 int'lunits)	0.26	0.44	69.2
Medical Cotton (500g)	5.70	12.00	110.5

Source: Donglan county pharmaceutical company

3 Health Facilities and Manpower

Distribution of facilities and health workers

Table 13 provides information on health facilities and health personnel.

Table 13: Health Facilities

	County	Township	Village
Health facility	7	15	13
Beds	165	148	
Personnel	294	265	
Health personnel (1)	217	147	
Health personnel (2):			
- Rural Doctor			104
- TBAs			289

Source: Donglan county health bureau

Table 14 provides the information that in 23 townships of Donglan there are 2 key health centres and 7 general health centres, respectively. In addition, about 6 clinics are set up in these townships at present. The data implied that some 40% of townships do not have either health centres or clinics.

Table 14: Township Health Centres and Clinics

	Number
Key THCs	2
General THCs	7
Township clinics	6
Townships	23

Source: Donglan county health bureau

The three tier health care network in Donglan is inadequate in terms of both facilities and health workers. The lack of health centres in some townships and the closure of most village health stations has created serious problems of access to health care for the majority of the rural population. In the 1970s there was 234 rural doctors, now there are only 104. Similar declines have occured for other health workers. Local health officials regard the re-establishment of health facilities in remote areas with high population densities as an urget priority. They suggested that this could be achieved by making greater use of new graduates from the county medical school.

Before the socio-economic reforms in early 1980s, almost every village has its own health station. Most of them collasped, owing to disappear of the commune system. At present, only 8 villages have their own health stations and five health posts are set up by township health centres. Therefore, about only 9% of villages in Donglan are able to provide peasants with simple curative and preventive services. Of 148 administrative villages in Donglan, only 8 village have their health stations providing preventive and simple curative services as well as pharmaceuticals. Most village health workers at villages where no health stations exist only assist township health centres in provision of preventive services.

Rural/urban distribution of health resources

Based on the fourth national census, 93.9% of the population live in rural areas. But of 313 hospital beds, 165 beds (52%) are at the county hospital. A similar situation exists with health workers.

National comparisons

The number of beds and health workers in Donglan relative to the population size are lower than the Provincial or National averages (table 15).

Table 15: Beds and health workers per 1000 population

	Beds	Health workers	Doctors	Nurses
National	2.34	3.48	1.13	0.89
Guangxi Province	1.67	2.58	0.84	0.75
Donglan County	1.15	1.34	0.74	0.41

Source: The Ministry of Public Health and the Health Department of Guangxi Autonomic Region

Health workers

Tables 16a, 16b and 16c provide information on the specialities and education qualifications of health workers in Donglan. The educational qualifications of these health workers are relatively low and the structure of specialisation is seen as inappropriate by local health officials. It was reported from the interviews with the county health administrators that since the socio-economic reforms many health workers with university/college qualification who were recruited during the great culture revelution have left from Donglan for upper level health facilities. The reasons are complicated. Firstly, they came Donglan in an anormal political circumstance and most of them were not willing to work at this grassroots level. Secondly, the working and living conditions are absolutely worse in Donglan than in the places where they went. Thirdly, they might earn more in these new institutes.

Table 16a: Medical staff by speciality

	County	Township	Total
Specialty:			
Medicine	99	89	188
Prevention	14	-	14
Medical Nurses	71	40	111
Pharmaceutical	12	9	21
Others	21	9	30
Total	217	147	364

Source: Donglan county health bureau

Table 16b: Medical staff by status

Rank	County	Township	Total
Chief Doctor	2	2	4
Doctor in Charge	82	32	114
Doctor	100	42	142
Assistant Doctor	27	68	95

Source: Donglan county health bureau

Table 16c: Medical staff by highest education level

Education	County	Township	Total
4-5 years Univ.	16	2	18
3 years College	31	18	49
Second Medical School	162	122	284
No Formal Training	8	5	13
Total	217	147	364

Source: Donglan county health bureau

Salaries and wages

Table 17a shows expenditures on basic salaries, subsidies and bonus payments, and the average monthly incomes of health workers for facilities at township and county levels. Table 17b provides comparative data on monthy incomes for other selected activities.

Table 17a: Income payments to health workers 1992 (yuan)

	Basic Salaries (10,000)	Subsidies (10,000)	Bonuses (10,000)	Average Income/month
General Hospital	20.0	27.0	8.0	258.3
AES	7.7	3.1	1.5	262.3
MCH	2.7	2.2	0.8	250.0
THC	26.4	34.0	3.9	202.0

Source: Donglan county health bureau

Table 17b: Average incomes in other sectors (yuan)

Sector	Average income/month
High School	283.3
Culture Bureau	263.8
Family Planning Committee	283.3
Government	275.4

Source: Donglan county government

Out-patients

Table 18 shows the number of out-patient visits made at different health facilities during the last decade. No attempt was made to estimate the volume of health services provided by private practitioners.

Table 18: Number of out-patient visits

Year	1981	1985	1990	1991	1992
General Hospital	146155	85627	97161	96482	95835
TCMH	0	0	5375	20129	32324
MCH	473	814	2139	2774	2257
THC	165762	173427	176860	214318	212622
VHS [1]	97856	14328	17519	16483	15387
Total	410246	274196	299054	344186	358443

Note: since 1983, only eight village health stations have reported provision of health services to the county health bureau. This is the reason why a great change was taken place between 1981 and 1985.
Source: Donglan county health bureau

In-patients

Table 19 provides the information on in-patient admissions to the county general hospital and township health centres.

Table 19: Number of in-patient admissions

Year	1981	1985	1990	1991	1992
General Hospital	2779	3658	4349	4342	4227
THCs	4849	4372	2914	3765	3253
Total	**7628**	**8030**	**7263**	**8107**	**7480**

Source: Donglan county health bureau

In 1992, 36% of out-patient services were provided at county level and 40% at township level. This latter is a considerable increase on the 1981 figure of 24%. In the last 3 years the volume of

out-patient services provided at township health centres has increased, while those provided by the village health station has decreased. This is largely because of the closure of many village health stations. This situation has created considerable problems in terms of access to health care. It was reported by a manager of one township health center that of the 151 individuals who died in 1992, only one received emergency hospital treatment and three out-patient services in the period immediately prior to death.

For China as a whole the average number of out-patient visits per person was 3.27 in 1992, while in Donglan it was 1.3. Tables 20 and 21 show the average work load at out-patient services provided by different health facilities in selected years.

Table 20: Average visits per health worker in hospital facilities

Year	1981	1985	1990	1991	1992
General Hospital	967.9	525.3	522.3	536.0	541.4
TCMH	0	0	447.9	1437.7	1154.4
MCH	43	74	118.8	173.3	118.7
THC	763.8	825.8	842.2	935.8	802.5

Source: Donglan county health bureau

Table 21: Average visits per doctor in hospital facilities

Year	1981	1985	1990	1991	1992
General Hospital	3109	1712	1943	1891	1843
TCMH	0	0	1075	3354	2694
MCH	78.8	135.6	164.5	252.2	161.2
THC	1821	1591	1943	2304	2389

Source: Donglan county health bureau

County Hospital

Table 22 provides some indicators related to the efficiency and effectiveness of service provision in the county hospital.

Table 22: County hospital service provision indicators

Year	Beds	Admissions	Average length of stay	Occupancy rate	Health Workers/ bed	Doctors/ bed	Nurses/ bed
1981	133	2779	5.07	34.46	1.14	0.35	0.35
1985	133	3658	11.63	81.31	1.23	0.38	0.42
1990	145	4349	10.60	90.94	1.28	0.34	0.46
1991	145	4342	11.91	96.94	1.04	0.35	0.48
1992	145	4227	9.42	83.42	1.22	0.36	0.42

Source: Donglan county health bureau

Township Health Centres
Table 23 provides similar information for the township health centres.

Table 23: Township health centre indicators

Year	Beds	Admissions	Average length of stay	Occupancy rate	Health Workers/ bed	Doctors/ bed	Nurses/ bed
1981	118	4849	5.7	39.3	1.84	0.77	0.45
1985	147	4372	6.9	66.8	1.43	0.74	0.31
1990	127	2914	5.1	34.5	1.65	0.71	0.35
1991	127	3765	6.0	44.0	1.80	0.73	0.43
1992	148	3253	6.2	40.9	1.79	0.60	0.27

Source: Donglan county health bureau

Problems with the County Hospital and THCs

- **County hospital.**

From 1981 to 1992 the number of hospital beds increased from 133 to 145. The number of doctors increased from 47 to 52. Health workers in the county hospital accounted for 67% of total personnel, somewhat lower than the 75% target set by the Ministry of Public Health. The number of in-patient services provided by the hospital has increased over the last decade. But, the volume of out-patient services has decreased.

- **Township Health Centres**

Over the period 1981-92 the number of hospital beds at township health centres increased from 118 to 148, while the number of health workers decreased from 199 to 147. The reasons for this is not clear. The central government introduced a new policy which involved increasing the price of medical services at the THCs to meet a greater part of their costs. However, it has been difficult to implement this policy. The THCs are aware that it may well lead to a considerable reduction in the demand for services.

Almost all health workers with college or university qualifications have left fthe THCs. As a result, many services can no longer be provided. For example, of fifteen township health centres, only two can carry out family planning operations. Any seriously ill patient will be simply be refered to the county hospital. In addition, the efficiency of the THCs is very low. In 1992, the occupancy rate was only 40%. On average 6 peasants per day were seen by a doctor. The x-ray machines at the THCs are seldomly used. Some THC operating theatres are almost never used.

Preventive services
In 1989 the county health bureau undertook the responsibility of developing immunisation programmes. At that time the four vaccines coverage was 85% among children under 7 years old. In recent years, due to lack of funding, the immunisation services have declined. In 1993 THCs decided to provide immunisation service at the center only and no longer sent health workers to village level. As a result, the coverage of four vaccines for children in the county decreased to 50%. In addition, the following reasons also affected provision of the service.

- poor awareness of the importance of immunisation among peasants
- reluctance to pre-pay for immunisations
- poor transportation in mountainous areas.

Funding problems have also affected the effectiveness of the mother and child health services. In 1993 the MCH station carried out a survey which indicated that only 11% of deliveries were

undertaking using modern methods. The infant mortality rate was 92 per thousand. The maternal death rate 933 per ten thousand.

Loss of qualified health workers
As a result of falling incomes, many licensed health workers have left the health services since economic reform. About 71 licensed health workers, of which 1 chief doctor, 8 doctors, 31 assistant doctors and 29 medical nurses have left from the health services since 1985.

Private practitioners
By the end of 1992 there were 31 private practitioners registered in Donglan, of which 16 were registered as western doctors, five as traditional Chinese medicine doctors and 10 as dentists. Seven private practitioners opened their clinics in the capital town. There are 13 practitioners at township level and 11 private practitioners at village level. In December 1992 the county health bureau, based on policies developed by the county government, issued a document indicating that applicants to become private practitioners required:

a certificate of qualification of medical college or secondary medical school
three years experience of practising medicine
to have passed the appropriate examination organised by the heath authorities.

This document also indicated that employees of health facilities could not apply to become private practitioners without permission of their institutions.

4. Finance and Expenditures of Health Services

Because of the slow economic growth in Donglan, the county government has been unable to provide adequate funding to the health sector. On the other hand, many peasants have great difficulty in paying for medical care. Overall, therefore, the per capita expenditure on heath services is relatively low. In 1992 the total expenditure of the county government was 27.9 million yuan, of which the health-related expenditure, including the public service medical scheme, family planning, accounted for 2.26 million (8.1%).

Table 24: Financing of health services (¥10,000)

Year	1981	1985	1990	1991	1992
Province	0	0	0	0	0
Prefecture	0	0	0	0	0
County	76	121	158	210	226
- recurrent	53	66	100	106	115
- special	0	0	0	0	0
- construction	3	5	5	10	3
- public service scheme	15	38	48	50	66
- family planning	5	12	5	44	42
Labour Insurance	23	28	25	23	36
CHCS	0	0	0	0.15	0.15
Self-payment [1]	7.8	32.4	132.8	172.9	176.2
Medical relief	1.4	1.4	1.4	1.4	1.4
Total	**108.1**	**182.8**	**315.8**	**408.2**	**439.8**

Note: The estimation for the expenditure of health care paid by peasants themselves was based on the routine reports from county and township levels. It was lower than real value because of the exclusion of the expenditure at village level and private clinics and pharmacies.
Source: Donglan county health bureau

According to Table 24, there were no financial support from provincial and prefectural levels to health services in Donglan. However, it was reported from the interviews with offcials of the counth health bureau that in the last several years the provincial health department invested about 400,000 yuan for re-constructing township health centers in Donglan and the prefectural health bureau provides the county with 6,000 yuan annually for preventing people from endemic disease.

Table 24a: Financing of health services at constant prices (¥10,000)

Year	1981	1985	1990	1991	1992
Province	0	0	0	0	0
Prefecture	0	0	0	0	0
County	143	196	158	204	208
- recurrent	99	107	100	103	106
- special	6	8	0	0	0
- construction	28	62	5	10	3
- public service scheme	9	19	48	49	61
- family planning	43	45	5	43	39
Labour Insurance	17	53	25	22	33
CHCS	2.6	2.3	0	0.15	0.14
Self-payment	203	296	133	168	162
Medical relief			1.4	1.4	1.3
Total			315.4	439.4	405.3

Source: Donglan county health bureau

Table 25: Average expenditure on health services

Year	1990	1991	1992
Population	270,886	274,569	271,986
Expenditure (¥10,000)	314.80	406.85	438.25
Per capita expenditure	11.62	14.82	16.11

Source: Donglan county health bureau

Table 26: Health service expenditure as a proportion of GNP

Year	1990	1991	1992
GNP (¥10,000)	11,179	13,521	13,194
Health Expenditure %	7.83	3.02	3.32

Source: Donglan county health bureau and statistical bureau

County Government Health Budget

Table 27 shows the allocation of the recurrent health budget to different health facilities..

Table 27: County Government Recurrent Health Budget (¥10,000)

Year	1981	1985	1990	1991	1992
County Hospital	8	17	32	39	38
THC	19	29	32	40	43
AES	14	15	20	18	22
MCH	2	3	5	7	4
Others	10	3	11	7	7
Total	53	67	100	111	114

Source: Donglan county health bureau

Table 28: Per Capita County Government Recurrent Expenditure

Year	1990	1991	1992
Population	270,886	274,569	271,986
Expenditure (¥10,000)	105	116	126
Per capita expenditure	3.89	4.22	4.63

Source: Donglan county health bureau and statistical bureau

Per capita expenditure on health services

Table 29 shows the average expenditure on health services per capital by those covered by the state insurance scheme or labour insurance schemes or making self payment of fees.

Table 29: Health service fees paid

Year	1990	1991	1992
Expenditure (¥10,000)	206.2	246.15	278.25
Population	270,886	274,569	271,986
Per capita expenditure	7.61	8.96	10.23

Source: Estimation was made from the data provided by the county health bureau and the county statistical bureau

Public sector medical scheme

Table 30 provides information on total expenditure and the number covered by the public service medical scheme.

Table 30: Public service medical scheme

Year	1981	1985	1990	1991	1992
Population covered	4268	5486	6758	6896	7084
Expenditure (¥10,000)	14	38	48	50	66
Per capita expenditure	32.66	69.26	71.02	72.5	93.16

Source: The Office of Public Service Medical Scheme of Donglan County

In 1992 a reform of the public service medical scheme was implemented. The county finance department limited the amount allocated to the scheme to 660,000 yuan per year. Employees of the government were asked to pay part of the costs of medical care. On average each paid 8.96 yuan.

Labour insurance scheme

Table 31 provides detailed information on the number covered by labour insurance schemes and expenditure on health services.

Table 31: Labour insurance scheme

Year	1981	1985	1990	1991	1992
Enterprise employees			9166	9802	9908
Employees in scheme	2207	2628	2621	3139	4638
Coverage %			28.59	32.02	46.81
Expenditure (¥10,000)	23	28	25	23	36
Per capita expenditure	104.21	106.54	95.38	73.27	77.62

Source: Donglan county health bureau

Self-payment

An attempt was made to estimate expenditure on health services by the population who are not covered by any scheme (table 10). These estimates are lower because they exclude expenditures on private practitioners and village health stations.

Table 32 provides basic utilisation indicators for the county hospital. Table 33 gives details on its sources of income and tables 34 its expenditures. Table 35 indicates the associated fee levels.

Table 32: County hospital utilisation indicators

Year	1981	1985	1990	1991	1992
Beds	133	133	145	145	145
workers	157	163	186	180	177
Doctors	47	50	50	51	52
OP visits	146,155	85,627	97,161	96,482	95,853
IP admissions	2,779	3,658	4,349	4,342	4,227
Average length of stay	5.07	11.63	10.6	11.91	9.42
Bed occupancy rate (%)	34.46	81.31	90.40	92.94	83.42

Source: Donglan county health bureau

Table 33: County hospital finances

Year	1981	1985	1990	1991	1992
Government	8	21	32	39	38
Service charges	4	20	52	57	67
OP	2	10	11	15	16
IP	2	10	41	42	51
Drugs income	21	34	76	86	83
OP	18	23	25	26	29
IP	3	11	51	60	54
Others	0	2	4	3	4
Total income	33	77	164	185	192

Source: Donglan county health bureau

Table 34: County hospital expenditures

Year	1981	1985	1990	1991	1992
base salaries	7	12	22	22	20
subsidies	2	12	19	18	27
bonus payments	0	1	10	7	8
drugs	17	29	65	75	69
materials	1	3	11	8	6
operations	5	6	8	10	12
administration	2	1	1	1	2
equipment	0	4	3	8	3
maintenance	1	2	1	6	12
construction	0	4	4	7	9
other	0	0	3	8	7
Total	35	74	147	170	175

Table 35: Fees per visit/admission at county hospital

Year	1981	1985	1990	1991	1992
OP fees/visit	1.37	3.85	3.71	4.25	4.86
drug fee	1.23	2.69	2.57	2.69	3.13
drug fee %	89.9	69.8	69.4	63.4	64.5
IP fees/admission	17.99	58.41	211.54	234.91	248.40
drug fee	10.80	30.07	117.27	138.19	127.75
drug fee %	60.0	52.4	55.4	58.8	51.4

Source: Donglan county health bureau

Table 36 presents information on the incomes and expenditures of THCs. Table 37 shows the associated fees.

Table 36: Income and Expenditure of THCs (¥10,000)

Year	1981	1985	1990	1991	1992
Income	**41.2**	**72.9**	**107.5**	**128.3**	**149.4**
government	19.1	28.9	31.8	40.3	43.2
service	5.1	9.2	20.5	25.8	31.9
OP	1.9	1.8	12.8	16.1	19.5
IP	0.2	4.4	7.7	9.4	12.4
drug	17.0	34.8	55.2	62.2	74.5
OP	16.0	30.3	42.8	46.8	55.4
IP	1.0	4.5	12.4	15.4	18.9
Expenditure	**42.9**	**77.6**	**105.2**	**127.0**	**148.8**
base salaries	11.3	14.5	22.6	22.2	26.4
subsidies	2.6	12.9	21.3	21.7	34.0
bonuses	0.9	1.8	2.8	3.7	3.9
drugs	14.6	32.1	47.2	55.9	64.2
materials	0.2	0.6	1.0	1.1	1.8
operation	3.4	2.5	4.1	4.5	6.5
administration	1.7	1.6	2.6	3.4	3.4
equipment	0.5	3.0	0	3.1	2.7
maintenance	6.1	8.0	2.6	3.5	3.0
other	1.6	0.6	1.0	7.9	2.9

Source: Donglan county health bureau

Table 37: Average Fees per Visit/per Admission in THCs

Year	1981	1985	1990	1991	1992
OP fee/visit	1.6	2.02	3.14	2.95	3.52
drug fee	0.97	1.75	2.42	2.18	2.61
drug %	76.6	86.19	77.07	71.02	71.15
IP fee/admission	24.75	20.36	68.98	65.87	96.22
drug fee	20.62	10.29	42.55	40.09	58.1
drug %	83.32	50.55	60.81	62.10	60.38

Source: Donglan county health bureau

Table 38: Income and Expenditure of Anti-Epidemic Station (¥10,000)

Year	1981	1985	1990	1991	1992
Income	**14.4**	**15.5**	**21.3**	**15.7**	**16.7**
government	14.4	15.4	20.3	14.4	15.2
services	0	0.1	1.0	1.3	1.5
Expenditure	**13.9**	**15.5**	**20.2**	**19.3**	**23.1**
base salary	3.2	4.4	6.3	6.8	7.7
subsidies	1.2	3.4	2.7	3.0	3.1
bonus	0	0.3	0.9	1.2	1.5
drugs	9	0	2.0	1.5	1.5
operation	6.4	6.2	6.1	4.0	4.0
administration	1.2	1.2	0.5	1.2	1.1
maintenance	0.7	0	0.6	0	2.2
other	0.3	0	1.1	1.6	2.0

Source: Donglan county health bureau

Table 39 presents information on the incomes and expenditures of the Mother and Child Health Station. According to central government policy, the MCH and anti-epidemic station should be fully funded by the county government. However, after the payment of health workers, only limited funds, (even no funds for the MCH station) from Donglan county government left to support operation of preventive programmes. Most costs of operation have to be generated from services charges.

Table 39: MCH station income and expenditure (¥10,000)

Year	1981	1985	1990	1991	1992
Income	**1.9**	**3.9**	**7.5**	**9.7**	**8.2**
government	1.8	3.1	5.0	6.7	4.3
service charge	0.1	0.8	2.5	3.0	3.9
Expenditure	**1.9**	**3.5**	**7.3**	**9.6**	**8.1**
base salary	0.6	1.0	2.2	2.3	2.7
subsidies	0.3	1.1	1.7	2.1	2.2
bonus	0.0	0.0	0.8	1.0	0.8
drug	0.0	1.1	0.1	0.0	0.2
operation	0.8	0.1	0.5	0.0	0.5
administration	0.2	0.1	0.2	0.5	0.3
other	0.0	0.1	1.8	3.7	1.4

Source: Donglan county health bureau

Table 40: Expenditure by county and township level health facilities 1990-1992 in constant 1990 prices

	1990	1991	1992	% increase 1990-92
County hospital	147	170	175	19
THCs	105	127	149	41
Anti-Epidemic Station	20	20	23	14
MCH	7	10	8	11
Others		13	23	

Source: County health bureau

Table 41: Expenditure by category for county and township level facilities 1990-1992 in constant 1990 prices

	1990	1991	1992	% increase 1990-92
staff	112	115	146	30
drugs	114	138	147	29
material	12	9	8	-35
equipment	3	11	6	90
others	38	65	71	87

Note: The facilities included are the county hospital, THCs, MCH centre and Anti-Epidemic Station.
Source: County health bureau

5. Conclusions

1. **Collapse of the three-tier medical care system**
   Supported by income from the collectives, the county-township-village three-tier rural medical care system worked very well before the 1980s, but collapsed as in most other provinces of China when collective funding disappeared with the implementation of the 'household responsibility' policy. Township health centres are required to generate revenues for running costs and to supplement staff income. The 'Barefoot doctors' have become private

practitioners earning their living mainly by selling drugs. Preventive health care and maternal and child health care are seen as less profitable activities and have declined in consequence. Poor households faced with high medical cost appear reluctant to seek for medical care, leading to lower utilisation of health services and reduced efficiency..

2. **Limited Health Resources**
Donglan is defined as a poor rural county by reference to the national poverty line. Average income per capita is less than 350 yuan and food consumption was less than 200 kg in 1992. Around 94% of the land area is mountainous or hilly and the average arable land per capita is only 0.04 hectare. The illiteracy rate in the population over 15 years of age is 41%. County industry development is so weak that average GNP per capita is 600 yuan and 56% of this in 1992 is derived from agricultural production.

The limited health budget, poverty of the population and the low salaries of health staff combine to produce poor facilities in the county hospital and health centres, instability of professional staff and inefficiency of health services. However, compared to the 1970s, the economy of Donglan is steadily improving. The question as to why the health service is deteriorating needs to be addressed, and policies formulated to use the limited health resources which are available to improve health care, especially for poor households.

3. **Inefficiency of health facilities**
The health status of those living in Donglan is poor. The infant mortality rate is 92% and maternal death rate 6.6. Less than 20% of children under 7 years old reach the national average level in terms of weight and height. In addition, poverty and a limited understanding of health care have lead to a situation in which there are low demands on services. The collapse of co-operative medical care systems in the early 1980s greatly reduced health service utilisation, leading to very low workloads.

Facing these problem, some health service manages have attempted a variety of solutions. One which is probably mistaken has been to buy new or advanced equipment in order to increase outpatient visits and inpatient admissions. However, as many patients are very poor, it is unlikely that they will be attracted by more advanced and expensive treatments. Improving basic health care services would seem a much better approach.

4. **Importance of reinforce township health centres**
It is obviously important for a poor county with less developed transportation to strengthen township health centres. Most patients cannot travel to the county hospital nor can enough village health workers be trained as doctors to solve the health problems of the village people. The best option to improve access to poor households would seem to lie in reinforcing township health centres. A strengthened township health centre with several sub-centres located in selected villages could be made responsible for providing most of the health services to households in the township. Whether one sub-centre would cover just one village or shared by several adjacent villages would depend on local geographic and population densities. Health staff working in the township health centres and sub-centres could be exchanged to enable them to improve their technical level and knowledge. Such a system could be linked to the development of township enterprises which might be able to provide financial support.

5. **Income of Health Staff**
There was a radical change in the method of financing county and township health services in the early 1980s when the national rural economic reform was taking place. Prior to this period county level health services were fully funded by government. .Township health centres were also fully funded by government or township, depending on whether they were

owned by the state or collective (commune) owned. It was not necessary (and not allowed) for the institution to generate extra revenue. Since the 1980s, all health facilities are required to generate revenue both for institutional reinvestment and to supplement staff incomes.

There are two controversial ways of revenue generation under the current payment system. Some health care institutions and doctors tend to carry out unneccessarily advanced medical examinations or prescribe expensive drugs to increase revenue. This may involve excessive costs for patients, public wellfare agencies or labour insurance schemes.

All these problems can be considered as interrelated, involving payment systems, cost control, revenue generation and financial resources. Any proposed solution must consider each of these aspects.

6. **Prospects for the health care system in Donglan**
The present situation, especially as it affects poor households, is of great concern to the county government, and a scheme for the reconstruction of the health care system is under consideration. It is recognised that many of the problems discussed above are closely interrelated such that a comprehensive design for health care reform is needed. It may also be necessary to consider if the problems can be solved at county level, or whether a more radical approach is needed, which will require new initiatives by the provincial and national governments.

FINANCING RURAL HEALTH SERVICES IN CHINA:
Shibing County, Guizhou Province

Cao Su-Hua[1], Wang Qian-Yu[2], Tang Sheng-Lan[1] and Ou Ai-Hua[3]

1. Introduction

This report details the main findings of a survey on rural health services in Shibing County, Guizhou Province carried out over the period 1st to 8th of August 1993. This study was carried out by a research team drawn from Shanghai Medical University, Guiyang Medical College and the Shibing County Health Bureau.

The survey covered two main areas:

- background information on the region: geography, population, administrative organization, economy, culture, transportation, communication and health status
- health care related data: the system of health service and management, health plans and projects, the current health care payment system, supply and sale of drugs, health facilities, personnel, finance and expenditure on health services, and opinions on the rural health care system from peasants, local cadres and health workers.

Using information provided by the County Health Bureau, three representative townships ("rich", "medium" and "poor") were selected, based on their level of socioeconomic development. The major primary data collection methods were key informant interviews and focus group discussions. Secondary data was obtained from the routine reporting systems of the County Health Bureau, Statistics Bureau, Civil Affairs Bureau and Education Bureau, annual reports of health facilities, and 'Key Indicators of Socio-Economic Development in Shibing County 1991, 1992', a report published by the Statistics Bureau.

At each study township, the head of the township government in charge of education and health and the director of health centres were interviewed. In addition, group discussions were held with peasants at two villages and with village health workers. The investigators visited the health centre and two village health stations. Managers of health facilities at county level were also interviewed using a semi-structured questionnaire. The deputy head of the county government in charge of education and health was invited to discuss policy issues/problems on financing rural health services.

In addition, the County Health Bureau, under the guidance of the research team, collected data from other agencies in line with tables designed by the Shanghai Medical University.

2. Background

2.1 Geography

Shibing is located in the southeast part of Guizhou province. Its main agricultural products are rice, oil vegetables, tobacco and peanuts whilst tea, silk and fruit are produced on a subsidiary basis. Marble, limestone and phosphate rock mines are also present.

2.2 Population

According to the Fourth National Census Shibing is mainly inhabited by minority groups (53 per cent Han, 43 per cent Miao and 1.6 per cent Tong).

In 1992, Shibing had a population of 133,500 with a population density of 86.6 person per square kilometre. Nearly all (94 per cent) of the people lived in the rural areas. Slightly more

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than half the population were between 15 and 49 whilst just under one third were under 15 and around 5 per cent were over 60 (Table 1). The ratio of males to females was 1.06 and the overall birth and death rates were 27.5 per 1000 and 7.8 per 1000 respectively (ie a natural increase rate of 19.6 per 1000).

Table 1: Population by age and sex 1992

Age Group	Male	Female	Total	%
<1	1325	1085	2410	1.8
1-4	7152	6680	13832	10.4
5-9	7713	7084	14797	11.1
10-14	6412	6068	12480	9.3
15-49	36649	34288	70937	53.1
50-59	6930	6229	13159	9.9
>60	2749	3136	5885	4.4
Total	**68930**	**64570**	**133500**	**100.0**

Source: Key Indicators of Socio-Economic Development in Shibing 1992

Table 1a: Population data 1990-92

Year	Population	Households	Peasants	% Population
1990	131,589	na	123,425	93.8
1991	133,060	29,087	124,728	93.7
1992	133,500	29,555	124,743	93.4

Source: Key Indicators of Socio-Economic Development in Shibing 1992, 1991

Table 1a shows that the population in Shibing increased gradually in the last three years. Of the county population, more than 90% people are peasants who live on agriculture production.

2.3 Education

The county has 164 primary and 10 high schools (Table 2). Enrolment and completion rates at the primary level were 94 per cent and 87 per cent respectively.

Table 2: Number of Schools (1992)

Type of School	Number	Enrollment	Enrolment (%)
Primary	164	18369	93.9
Junior	8	4194	90.0
Senior High	1	511	85.0
Vocational	1	158	93.0
Total	**174**	**23232**	

In 1990, more than 80 per cent of the population over the age of six had not completed junior school whilst just over one-third could not read nor write (Table 3).

Table 3: Education of Population (Over 6 Years Old) in Shibing (1990)

Education	Male	%	Female	%	Total	%
Illiteracy	11077	18.8	28390	51.5	39467	34.6
Primary School	32110	54.5	21036	38.1	53146	46.6
Junior High School	12525	21.3	4602	8.3	17127	15.0
Senior High School	2035	3.4	708	1.3	2743	2.4
Vocational School	838	1.4	400	0.7	1238	1.1
College/University	336	0.6	36	0.1	372	0.3
Total	**58921**	**100.0**	**55172**	**100.0**	**114093**	**100.0**

Source: Fourth National Census

Some peasants reported that the teaching facilities (space, furniture, etc.) at primary level were very poor. For example, because of the shortage of classrooms in one primary school in Gan-xi township (which was at medium level of socio-economic development) pupils from three

grades had to study in one room. At some other primary schools pupils had to bring their own benches into classrooms.

2.4 Administrative Organisation

There are five townships and three towns in which eight governments are set up to govern 107 villages (village administration committee).

2.5 Economic Context

Gross National Product

Overall (and per capita) GNP increased between 1990 and 1992 (Table 4a).

Table 4a: Trends in gross national product

	1990	1991	1992
GNP (¥10,000)	8,712	9,191	10,334
Growth rate %	-	5.5	12.4
GNP per capita (¥)	662	691	774

Table 4b: Trends in gross national product (constant 1990 prices)

	1990	1991	1992
GNP (¥10,000)	8,712	8,753	9,065
Growth rate %	-	0.5	3.6
GNP per capita (¥)	662	726	753

Agricultural output

Shibing's economy is predominantly agricultural (Table 5). Over the period 1990-91, agricultural output grew very rapidly.

Table 5: Total Product Value 1990-92 (1990 prices) (¥10,000)

Year	Total product	Growth rate (%)	Agricultural Product Value	Growth rate (%)	Agriculture % Total Product
1990	11786	-	7733	-	65.6
1991	12759	8.3	8942	15.6	70.1
1992	13461	5.5	9000	0.6	66.9

Source: The County Statistics Bureau

Township and village enterprises

The number of township/village enterprises and workers in Shibing increased over the period 1990-92 (Table 6). In 1991, the average monthly income per employee was 72 yuan. Over time the total value of output from these enterprises has fallen and their losses (on an aggregate basis) have increased.

Table 6 Output and Profits of Township/Village Enterprises (1990 prices)

Year	No.	No. of Employees	Total Product Value (¥ 10,000)	Profit (¥ 10,000)	Average Income per Employee (¥)
1990	26	706	693	-15	-
1991	25	788	534	-18	863
1992	30	844	403	-44	841

Source: Key Indicators of Socio-Economic Development in Shibing 1991, 1992

Income and expenditure of peasants

Agriculture is the main income source for peasants, supplemented by forestry and livestock. In 1991, according to the estimate made in the focus group discussion, annual per capita rural

income averaged 468 yuan, ranging from 180 yuan in poor townships to around 640-700 yuan in rich townships; nearly 99 per cent of income was from household production. Many young people went to work in the east coast in order to increase their income. In one village of Gan-xi township, more than 20 people went to Guang-dong.

Average annual food consumption per capita in poor townships was 165 kg compared with 200 kg in rich townships. In 1990, the average expenditure and tax of peasants on a per capita basis was 327 yuan and 10 yuan respectively. It was reported from the group discussion with village health workers from Gan-xi township that on average, village level expenditure on medical care was 2.5 yuan per person per year.

Finance of the county and township governments

The total revenue of Shibing County Government has increased from around 11.8 million yuan in 1990 to just under 16 million yuan by 1992(Table 7). In each year, however, total expenditure was higher than income.

Transfers from higher level government accounted for a substantial percentage of the income of Shibing county government (Table 7). In 1990, they exceeded revenue income. The share of health in total county government expenditure increased slightly in the early 1990s.

Table 7: County Government Income and Expenditure 1990-92, (10,000 yuan)

Year	Income					Expenditure		
	Revenue	%	Transfers	%	Total	Total	Health	Health(%)
1990	517.0	44.8	664.5	56.2	1182.0	1324.1	62.2	4.70
1991	771.9	56.4	597.5	43.6	1369.4	1489.9	72.5	4.87
1992	844.7	52.9	752.4	47.1	1597.1	1767.2	100.1	5.67

In contrast to the County Government, the income of township governments has been larger than their expenditure over this period (Table 8).

Table 8: Township government income and expenditure 1990-92 (¥10,000)

Year	Income	Expenditure	Saving
1990	405.3	331.4	73.9
1991	589.9	361.8	228.1
1992	729.9	513.2	216.7

Source: The County Statistics Bureau

Poverty

The poverty level for townships is defined as all those in which the average annual per capita income is less than 300 yuan and the average food per person per year is less than 250 kg. Five townships and one town in Shibing are thus defined as being below the poverty line. About 70% of population live in poverty.

Assistance programmes are available to alleviate poverty. In 1992, there were 97 "Five-Guarantee" households and 129 individuals who received "Social Relief" from the Department of Civil Affairs. Total Social Relief funding was 20,000 yuan with each poor person receiving 155 yuan on average. The Anti-Poverty Program in Guizhou Province is ready for supporting projects benefiting for poor counties. However, each poor county has to sumbit project proposals for approval by upper level authorities. Overall, the Anti-Poverty Program has assisted 18 projects with low-interest loans totalling 2.43 million yuan.

2.6 Transportation and Communication Networks

Shibing's major transport facility is a 519 km network of highways which allow access to all the townships and around 77 per cent of villages. Rail and water transport are also available. The capital has a central Communications Bureau and seven outposts in towns or townships. Seven long distance telephone lines provide connections outside the county.

2.7 Health

According to the Fourth National Census, the life expectancy in Shibing was 64.6 years in 1990 (Table 9) which was lower than the provincial average level (67.5 years). Maternal death rates showed large variations due to inadequacies in the reporting system.

Table 9: Demographic indicators 1981-92

Year	Death Rate	IMR	Maternal Death Rate / 10,000	Life Expectancy (years)
1981	7.35	73.70	-	62.50
1985	7.50	74.10	-	62.95
1990	7.40	73.20	12.40	64.57
1991	7.80	70.70	9.75	65.74
1992	7.90	70.60	21.30	65.83

Source: The County Health Bureau, 1993

In 1992, the incident rate of infectious diseases was 622 per 100,000 population. The five main infectious diseases were measles, diarrhoea, hepatitis, typhoid fever and hookworm (Table 10) whilst the five major causes of death were associated with respiratory illnesses, digestive disorders, circulatory problems, parasitic infestation and injury/poisoning.

Table 10: Deaths rates from the five leading infectious diseases 1992

Disease	Morbidity (100,000)	Mortality (100,000)
Measles	245.5	0
Diarrhoea	245.3	0.075
Hepatitis	48.8	0
Typhoid Fever	43.6	2.25
Hookworm	19.6	2.25

Source: The County Anti-Epidemic Station

3. SYSTEM OF HEALTH SERVICES AND MANAGEMENT

3.1 System of Health Provision

Health facilities

Shibing has five county level health facilities: a county hospital, an anti-epidemic station, a maternal and child health (MCH) station, a pharmaceutical testing center and a family planning station. There are ten family planning posts and eight health centres in townships and 92 village health stations.

System of management

The County government is the single largest source of finance for the health sector. However, funds are also provided by the Prefectural government for maintenance, disease prevention, maternal and child health, medical relief, medical equipment, and so on. In addition, the Provincial Health Department sometimes subsidises construction and the purchase of equipment.

Health facilities at the county level are the responsibility of the County Health Bureau (CHB). However, whilst the CHB is technically supported by the provincial and prefectural departments it is under the administrative control of the county government which can intervene directly into its operations. The deputy director of the CHB is responsible for the work of two or three divisions. Based on the health budget the County Finance Department provides funding (on a monthly basis) for the CHBs who allocate this to the various health facilities.

The heads of health facilities are appointed by the County Administration Department who generally consult the CHBs for their final decision. Other personnel are appointed by the CHBs. Supervision of township health centers is provided by the county hospital, anti-epidemic station, and MCH station. The latter two institutions may also provide limited funding. Village health stations come under the jurisdiction of the township governments and health centres. The health centers develop health service targets and evaluate the performance of village health workers (VHWs). Health station finance is provided by VHWs and sometimes by village/township collectives.

Relationship between health sector and others
There are a number of organisations in the health sector. Health sector construction projects are submitted to, and have to be approved by, the County Planning Committee. The County Finance Department obtains funding for the health sector based on the Government budget and may sometimes help CHBs apply for special funding. The County Minority Group Committee allocates funding to support students from minority groups to study in medical schools. The County Civil Affairs Department liaises with the Red-Cross to distribute relief supplies. Health education and school health are provided by the County Education Committee in co-operation CHB whilst responsibility for hygiene, monitoring and reforming latrines as well as improving drinking water lies with the County Patriotic Health Committee (PHC). The Office of the County PHC deals with day-to-day operations. Finally, the operation and co-ordination of the family planning programme within the health sector are carried out by the County Family Planning Committee.

3.2 Health Plans and Projects

County health workers follow an existing PHC plan. Fourteen key indicators are used in the implementation of this plan, and the County government contracts township governments and health facilities to achieve targets on these indicators. An annual evaluation is carried out by the County Government, the county people's congress and the county political negotiation commission.

In 1992, every PHC indicator reached the target laid down by the Ministry of Public Health (MoPH). The patriotic health movement is going smoothly. Owing to lack of funding, a project aimed at reforming latrines and improving drinking water stopped in 1992. There are no co-operative health care scheme in Shibing.

Family planning posts were set up by most townships. Most villages set up "Family Planning Associations" run by former heads of villages and representatives of peasants. They actively promoted the national policy of "one family one child." which led to an acceptable level of population growth in Shibing. However,this policy has been more difficult to implement in areas occupied by minority groups due to their being less developed economically, poor levels of education and traditional factors.

The immunisation coverage (i.e. four vaccines) achieved 85 per cent. In addition, each village at least has one traditional birth attendant who obtained a short course training. Every township health centre appoints someone who is responsible for maternal and child health care. The percentage of baby delivered at hospitals or health centres was very low.

The incident rate of TB was high (148 per 100,000). Some patients are monitored by the anti-epidemic station. In the anti-epidemic station, a division for chronic disease was set up to monitor skin disease, particularly leprosy. In the past years, two leprosy patients were found in Shibing.

3.3 Payment for Health Care

There are three major health care payment systems in Shibing: a public service medical scheme, a labour insurance scheme and a self-payment system.

The public service medical scheme (PSMS)
This covers government institutes employees. In 1992, 3514 people came under this scheme and an average medical care expenditure per person was 89 yuan, as reported by the office of PSMS. However, the health administrators reflected a fact that an real average medical care expenditure per person is not known, but higher than the reported figure, since some institutes paid for overspending and some have not cleared their emplyees' bills.

The County Finance Department provides funding of PMSM (in accordance with the government budget) to every institute. In general, these institutes have to pay part of any overspend.

The labour insurance scheme
This provides free medical care to employees in enterprises and companies. In 1992, this covered 3304 people and total expenditure was 198,000 yuan, ie average medical care expenditure per person was around 60 yuan.

Self payment
The remainder of population have to pay for their medical care. The County Health Bureau have 7000 yuan every year to subsidise medical care by the poor. However, only a small number of households can apply for social relief.In 1992, it was estimated that the average medical care expenditure per person was 9.1 yuan.

It was said by senior health offcials that those covered by the public service medical and labour insurance scheme tended to overuse health services, whilst some people not covered by any insurance scheme have difficulty in paying for health care. It was not uncommon that the government employees use advanced pharmacueticals and tonics paid by the PSMS. And, there are also many their dependents taking advantages of the free medical care. Meanwhile, according to the Director of the County Hospital, almost 50 per cent of patients wanted to leave hospital before they were cured because they did not have enough money. Some peasants reported that it was very convenient for them to seek health care at village and township levels because of the availability of drug and health workers. But they were not able to afford hospital treatment.

3.4 Drug Supplies and Sales

Pharmaceuticals are not manufactured in Shibing county, however, it has a pharmaceutical company which supplies and sells drugs. The major sources of drugs are a Prefectural drug company and Chinese herb firms. Owing to the economic reforms, many health facilities buy drugs directly from pharmaceutical manufacturers. Consequently, the county pharmaceutical supplier has to compete with these manufacturers and do not obtain all the contracts from health facilities. Drug prices are set at the Provincial level and monitored by the County Price Bureau.

Table 11: Drug sales by the county pharmaceutical company 1990-92 (¥10,000)

Year	Volume of Drug Sales	Profit
1990	63.5	2.0
1991	70.2	3.6
1992	80.4	4.25

Source: The County Pharmaceutical Company

3.5 Perceptions of Rural Health Services

Some wealthy peasants are able to pay for all health services except hospital care. Most peasants wanted a rural cooperative health care scheme (CHCS) organized by the local community for which they were willing to contribute financially. However, they they were concerned about the management CHCS schemes. Poor peasants also wanted this type scheme to be established, however, would have been unable to even pay a small premium for health care.

Village health workers (VHWs) thought that it was important for them to be adequately paid for the time they spent on health services. At present the major income source of VHWs was from agriculture, though some villages and townships have begun to give them some funding. However, VHWs wanted to increase funding of village health stations for medical equipment, practicing houses and in-service training. and did not think that this was the right time to organise CHCS's.

Heads of County hospitals said that problems of access to health care for peasants were largely due to financial ability and transportation. They suggested several strategies for the Government for addressing these problems. These included developing the local economy, strengthening health education and re-training village health workers. Some heads of Township Health Centres stated that the government should allocate some money to compensate losses by health centres as some poor peasants did not pay for medical care after their visits.

Health managers in the anti-epidemic station thought that access to basic health care for every person has not been solved. Although there were health stations and health workers, the funding of health stations and the payment of health workers has not been addressed. Thus, village health workers spent most of their time in agriculture, whilst prices have increased sharply and preventing peasants from seeking health care.

The leaders of the township governments said that the top priority was to develop production (ie village and township enterprises). Once the economic situation improved, health service provision would be given higher priority by the government. However, at the moment it was difficult for local government to put more resources into health,yet the peasants were not rich enough to make their contribution to organisation of CHCS's.

According to the Heads of the County government the problems in implementation of primary health care were mainly due to a lack of funding for health services, poor medical technology, a shortage of skilled health workers, rapidly rising drug prices and the low incomes of peasants.

According to the County Health Bureau, the public service medical scheme and the labour insurance scheme over utilised health services whilst peasants, especially the poor, could not afford to pay for health services. In effect, a co-operatively organised health care scheme could be effective in improving access to health care. Implementation would require solving a number of problems (e.g.financing, management, negotiation between users and providers and so on).

4. HEALTH FACILITIES, PERSONNEL AND SERVICES

4.1 Health Facilities and Personnel

General information

Shibing county has 120 health facilities (Table 12). Five are at county level (the County hospital, an anti-epidemic station, an MCH station, a drug testing centre and a family planning station) whilst there are 8 Township (or Town) Health Centres, 10 family planning posts, 97 health stations (92 in villages, three in schools and two in enterprises). Every townships and towns have their health centres. Of 107 villages, 92 villages have health stations. Most village health workers use their own houses as 'station'. There are 15 villages where no health stations exist. The health administrators explained that some villages are located near health centres and there is no need of establishing health stations there.

In 1992, Shibing county had 178 beds nearly all of which were either at the County hospital or Township Health Centres (THCs). The number of beds was 1.3 per 1000 people. A total of 463 health personnel worked in these facilities, of which 402 (87 per cent) were health workers. There are an additional 245 traditional birth attendants and 16 private practitioners.

The five county level health facilities have 80 beds and 142 employees (of which 114 persons are health workers) (Table 12). The eighteen Township Health Centres have 92 beds and a staff of 212 (171 of which were health workers). There are ninety two health stations and six beds at village level. About 349 persons are involved in health related work. Among them 104 people are rural doctors or health aids.

Table 12: Health Facilities in Shibing 1992

Facility	Number	Beds	Health Personnel	Licensed Health Workers
County hospital	1	65	92	70
Anti-epidemic station	1	0	28	26
MCH station	1	10	9	9
Drug-testing centre	1	0	1	1
Family planning station	1	5	12	8
THC	8	92	168	163
Family planning post	10	0	44	16
Village health station	92	6	104	104
Enterprise health station	2	0	2	2
School health station	3	0	3	3
Total	120	178	463	402

Source: County Health Bureau

Distribution of health facilities

Five townships and three towns have their own health centres. Generally, the nearer they are to capital towns, the smaller the health centres. All health facilities at the county and township levels are State-owned. Most staff are employed by the government, and the rest by the collectives and/or under contract to the facilities. Village health stations are jointly owned by village collectives and health workers. Most village health stations use health workers' homes as clinics.

Table 13: Distribution of village health stations 1992

Township	Population	Area	Villages	Village Health Stations	Population Per VHS	Area Per VHS
Chen-guan	34,349	329.2	18	14	2453.5	23.5
Gan-xi*	9,403	117.3	7	7	1343.3	16.8
Bai-du	8,115	194.1	8	7	1159.3	27.7
Bai-xi	17,101	143.6	13	12	1425.6	12.0
Nu-da-hang*	20,719	273.3	13	12	1726.6	22.8
Shang-jin*	17,789	117.2	19	19	936.3	6.2
Ma-xi	7,554	173.2	7	6	1259.0	20.9
Ma-hao	18,313	193.7	22	15	1220.9	12.9
Total	133,349	1541.7	107	92	1449.4	16.8

Note: The townships marked '*' are included in the 1993 study.

Source: The County Health Bureau, The Anti-epidemic Station, and The Key Indicators of Socio-economic Development in Shibing County 1992

Selected indicators

In 1992, there were 375 full time and 349 part time (VHWs and TBAs) health workers. The number of part-time health workers per 1000 population was 2.6 while the number of full time health workers per 1000 population was 2.8..

Health personnel

Information on health facilities at the county and township levels is given below; data was unavailable for village health stations.

Table 14: Employees in licensed health facilities by age 1992

Age Group	County						Township					
	Male	%	Female	%	Total	%	Male	%	Fmale	%	Total	%
<20	0	0	0	0	0	0	0	0	3	46	3	1.8
20-29	15	40.6	19	27.9	34	32.4	25	25.5	31	47.7	56	34.4
30-39	8	21.6	29	42.7	37	35.2	32	32.7	13	20.0	45	27.6
40-49	5	13.5	16	23.5	21	20.0	27	27.5	15	23.1	42	25.8
50-54	8	21.6	4	5.9	12	11.4	10	10.2	3	4.6	13	8.0
55-59	1	2.7	0	0	1	1.0	4	4.1	0	0	4	2.4
Total	37		68		105		98		65		163	
%	35.2		64.8				60.1		39.9			

Source: The County Health Bureau

There are more female than male employees in health facilities at the county level (the reverse is the case for villages) (Table 14). Overall, most health workers (just under 60 per cent) had attended junior or senior high school though only 9 per cent had received college or university education whilst another 7 per cent had only been to primary school (Table 15). Just over one-third (35 per cent) had received some form of health related training. The percentage of health workers having a speciality in medicine and nursing is just under 30 per cent and around 25 per cent (Table 17). In 1992, there were 0.3 doctors and 0.5 nurses per patient bed.

Table 15: Licensed Health Workers by Educational Qualification 1992

Education	County		Township		Total	
	Number	%	Number	%	Number	%
Primary School	1	1.0	17	10.4	18	6.7
Junior High	27	25.7	53	32.5	80	29.9
Senior High	19	18.1	58	35.6	77	28.7
Vocational	42	40.0	27	16.6	69	25.7
College	6	5.7	6	3.7	12	4.5
University	10	9.5	2	1.2	12	4.5
Total	105	100.0	163	100.0	268	100.0

Source: The County Health Bureau

Table 16: Licensed health workers by rank 1992

	County		Township		Total	
	Number	%	Number	%	Number	%
Chief doctor	3	2.8	0	0	3	1.1
Consultant	15	14.3	7	4.3	22	8.2
Doctor	49	46.7	7	4.3	56	20.9
Assistant doctor	37	35.2	37	22.7	74	27.6
Health aid	1	1.0	112	68.7	113	42.2
Total	105	100.0	163	100.0	268	100.0

Source: The County Health Bureau

Table 17: Speciality of licensed health workers 1992

Item	County		Township		Total	
	Number	%	Number	%	Number	%
Medicine	19	27.2	50	30.7	69	29.6
Nursing	33	47.1	27	16.6	60	25.7
Pharmaceutical	10	14.3	9	5.5	19	8.2
Other	8	11.4	77	47.2	85	36.5
Total	70	100.0	163	100.0	233	100.0
Medicine/nursing	1:1.74		1:0.54		1:0.87	

Source: The County Health Bureau

Incomes of health workers

The average monthly incomes of health workers at the County hospital, the anti-epidemic station and the MCH station were around 280 yuan, 240 yuan and 200 yuan, respectively (Table 18). Overall, the basic salary accounted for around 60-70 per cent of total income with the rest being due to subsidies and bonuses. The proportion of subsidies and bonuses was less in the anti-epidemic station and the MCH station than in county hospital.

Table 18: Average incomes of health workers 1992 (yuan)

Item	County Hospital	%	Anti-epidemic	%	MCH	%	THC	%
Salary	164.8	B	159.2	67.3	129.6	64.5	94.2	64.2
Subsidies	76.8	27.7	41.7	17.6	37.0	18.4	38.7	26.3
Bonus	35.8	12.9	35.7	15.1	34.3	17.1	13.9	9.5
Total	277.4		236.6		200.9		146.8	

Source: The County Health Bureau

Health workers at all levels considered that the benefits (accommodation, next generation employment and so on) they received were not as good as those provided by other sectors.

The average income of township health workers was lower (147 yuan per person per month on average) than that at the county level.

Village health workers incomes were lower than village officials. VHWs derived their income from agriculture and through the provision of curative and preventative services. On average these health workers spent three hours every day on health services which earned them about 25 yuan per month, plus 20 yuan profit from drug sales. There was little income from preventative services. Around half the health workers received financial subsidies from the township governments (between 15-45 yuan per month).

Flow of health workers

Since 1981, 28 health workers including one chief doctor and five doctors) have left Shibing for a number of reasons: joining their spouses, returning to their hometown, pursuing own interests and specialties, or not willing to work in Shibing. Most medical graduates who were born in or near Shibing do not wish to work in the county.

Private practitioners

In 1992, there were 16 private practitioners, of which 10 persons were in the capital town. Some private practitioners are retired health workers. The application to become a private practitioner has to be approved and certified by the County Health Bureau. Practitioner's have to provide preventative services for local people and attend health meetings organised by the County Health Bureau. They are required to pay taxes, accept monitoring by the County Pharmaceutical Testing Centre and keep case records and prescriptions for inspection. Due to many sources of purchasing drugs, some drugs sold by private practitioners were not of a suitable quality.

4.2 Health Services

Curative services

Table 19 shows outpatient services provided at health facilities at county and township levels. There is no reporting system existed at village level. However, an effort was made to estimate volumn of outpatient service provision at village health stations by considering information from the group discussions with village health workers. It was assumed that each health stations provided 4 outpatient consultations every day. 92 stations in Shibing had about 132,480 outpatient visits annually, accounting for 40% of the services in these health facilites. In addition, it was reported by the county health bureau that 16 private clinics in Shibing

provided about 32,000 consultations every year. Never the less, it has not been clear who goes to these private doctors.

Table 19: Distribution and volume of out-patient services

	1981	1985	1990	1991	1992
County hospital	30,846	30,985	31,758	33,687	35,623
Anti-epidemic [1]	0	0	1,500	1,500	3,000
MCH	1,303	1,318	1,425	1,684	1,725
Township health center	89,327	90,175	94,101	97,145	99,643
Total	**121,476**	**122,478**	**128,784**	**134,016**	**139,991**

Note 1 The anti-epidemic sation opened the first outpatient department in 1988 and the second one in 1992. It was estimated by head of the station that each outpatient department had about 1,500 visits per year.
Source: The County Health Bureau

There were a total of 2,922 in-patients who accounted for 18,135 hospital days (Table 20). The average number of admissions per population of 1000 was 22. Two-thirds of in-patients were at county hospital. The average length of stay at county hospital and Township Health Centres were 8.9 days and 5.4 days, respectively.

Table 20: Distribution and volume of in-patient services 1992

Indicator	County Hospital	THC	Total
Admissions	1727	1195	2922
Discharges	1359	1125	2484
Days	12060	6075	18135
Average stay	8.9	5.4	7.3
Bed occupancy rate	50.8	18.1	31.6
Bed turnover rate	20.9	12.2	15.8
Beds/person	1.4	1.8	1.6
Beds/doctor	0.3		
Beds/nurse	0.5		

Source: The County Health Bureau

The bed occupancy rates at the county hospital and THCs were around 50 per cent and 18 per cent, respectively (table 21). The bed turnover rates were 21 and 12.

The number of outpatient visits at the County Hospital and THCs has increased slightly since the 1980s. In-patient service provision in these facilities has also risen. However, efficiency of the facilities was very low in terms of bed occupancy rates.

Table 21: Volume of health services in THCs/County Hospital 1981-1992

Year	1981	1985	1990	1991	1992
No. of beds					
Total	145	145	157	157	157
County hospital	63	63	65	65	65
THCs	82	82	92	92	92
Health workers					
Total	222	218	229	235	255
County hospital	75	84	90	93	92
THCs	147	134	139	142	163
OP visits					
Total	120173	121160	125859	130832	135266
County hospital	30846	30985	31758	33687	35623
THCs	89327	90175	94101	97145	99643
IP admissions					
Total	2042	2109	2172	2387	2484
County hospital	1195	1214	1248	1337	1359
THCs	847	895	924	1050	1125
Hospital days					
Total	14888	16782	15557	16979	18135
County hospital	10145	11412	10937	11854	12060
THCs	4743	5730	4620	5125	6075
Occupancy rate					
Total	28.1	31.7	27.1	29.6	31.6
County hospital	44.1	49.6	46.1	50.0	50.8
THCs	15.8	17.9	13.8	15.3	18.1
Turnover rate					
Total	14.1	14.5	13.8	15.2	15.8
County hospital	19.0	19.3	19.2	20.6	20.9
THCs	10.3	10.9	10.0	11.4	12.2
Average stay (days)					
Total	7.3	8.0	7.2	7.1	7.3
County hospital	8.5	9.4	8 8	8.9	8.9
THCs	5.6	6.0	5.0	4.9	5.4
Admissions/year 10,000 persons	17.6	17.1	16.5	17.9	18.6
Days/year 1,000 persons	128	136	118	128	136

Source: The County Health Bureau

Preventative services

Coverage of the four vaccines has been around 85 per cent in recent years (table 22).

Table 22: Four vaccines coverage 1985-92

Vaccine	1985	1990	1991	1992
BCG	90.4	87.4	87.8	88.1
Measles	95.5	88.1	87.2	89.5
Polio	89.9	92.0	85.5	90.8
DPT	88.2	91.5	88.6	89.2
Four Vaccines	81.3	83.9	87.6	85.0

Source: The County Anti-Epidemic Station

In 1988, a prepaid child immunization scheme was initiated in Zhi-jin and Ban-hou township and later extended to most townships in Shibing. To date, all townships (except Mao-hao) implemented the scheme which covers just under 90 per cent of children under seven.

Maternal and child health services
In 1992, there was 2,866 pregnant women, of which six died. The maternal death rate was 2.1 per 1000 population. Of the 2,064 births, 87 per cent were delivered by using modern methods. However, only 20.7 per cent of baby were delivered in hospital or health centres.

5. FINANCE AND EXPENDITURE ON HEALTH SERVICES

5.1 Health Finance

Total health expenditure
Over the period 1981-92 total health expenditure (excluding private clinics and village health stations) of Shibing county rose dramatically. On average the annual growth rate was 19 per cent and the share of health expenditure in the National Income was 3 per cent in 1992 (table 23). The average expenditure of health services rose from 4.6 yuan in 1981 to 18.8 yuan in 1992. In addition, it is assumed that each peasant spent about 2.5 yuan on health services provided at village health stations in 1992. Therefore, the average health expenditure per capita in 1992 was more than 21 yuan in Shibing, given that the spending of health services at private clinics and for purchasing drugs from drug sellers is not considered.

Table 23: Health expenditure 1981-92

Year	Health Expenditure (10,000 yuan)	% of National Income	Health Expenditure per capita
1980	53.5	-	4.6
1981	94.2	-	7.7
1990	182.5	2.4	13.9
1991	217.64	2.7	16.4
1992	251.5	2.7	18.8

Source: The County Health Bureau

Sources of health finance
There are three major sources of health finance in Shibing county: Government (provincial, prefectural and county levels), enterprises (for their employees), and individuals. Data on expenditure was not directly available for the third source. This was estimated by subtracting the expenditure of the public service medical scheme and labour insurance scheme from the total service charges by all health facilities other than village health stations and private clinics, for which data were not available. Some idea of the level of underestimation arising from this omission may be obtained as follows. Firstly, assuming that every health station had four outpatient visits every day with each visit costing 2.5 yuan, total annual service charges for 92 health stations would have been 330,000 yuan. If it is further assumed that each private clinic had service charges of 12,000 yuan per year (based on estimates by the County Health Bureau), the total service income for 16 private clinics would have been 192,000 yuan. These figures suggest that the actual payment for health services by households would be approximately twice that presented in table 24.

Table 24: Financing of health services (10,000 yuan)

Year	Government	%	Collective	%	Self Payment*	%	Total
1981	35.7	67	4.5	8	13.7	25	53.5
1985	67.4	72	6.5	7	20.3	21	94.2
1990	110.9	61	8.9	5	62.7	34	182.5
1991	145.2	67	13.0	6	59.4	27	217.6
1992	165.0	66	19.8	8	66.7	26	251.5

*See previous paragraph.

The largest source of health finance in Shibing was the Government, followed by individual households. Health service expenditure by collectives was very limited. If the expenditure of health services at health stations and private clinics was included, Government funding and the

payment by individual households accounted for 54 per cent and 39 per cent of total expenditure, respectively.

Government funding
More than 50 per cent of government spending was for recurrent health expenditure and about 20 per cent for public service medical scheme (table 25). Since 1981, government expenditure has increased gradually. A substantial amount has been allocated to construction at county hospital in recent years.

Table 25: County Government health budget (10,000 yuan)

Item	1981	%	1985	%	1990	%	1991	%	1992	%
Recurrent	27.6	77.3	37.7	55.9	62.3	56.2	71.4	49.2	85.9	52.0
Construction	-	-	7.0	10.4	-	-	20.0	13.8	17.0	10.3
Family Planning	0.7	1.9	4.5	6.7	10.2	9.2	10.1	7.0	19.8	12.0
PSMS	6.8	19.1	10.2	15.1	27.8	25.1	32.5	22.4	31.3	19.0
Social Relief	0.5	1.4	0.5	0.8	0.7	0.6	0.8	0.5	0.8	0.5
Other	0.1	0.3	7.5	11.1	9.9	8.9	10.4	7.2	10.2	6.2
Total	**35.7**		**67.4**		**110.9**		**145.2**		**165.0**	

Source: The County Health Bureau

The recurrent health budget
The recurrent health budget accounted for less than 5 per cent of the County government budget. Of this, the County Hospital received 32 per cent and the Township Health Centres 38 per cent (table 26). Only 18 per cent went to preventative institutes. Only one person is in charge of county pharmaceutical testing centre and paid out of health budget for county health bureau. No funding was allocated for drug testing. Over time, funding for the County hospital and Township Health Centres has increased. The MCH station has the top priority for funding.

Table 26: County Government recurrent health budget

Item	1981	%	1985	%	1990	%	1991	%	1992	%
County Hospital	9.2	33.3	12.7	33.7	18.4	29.5	23.4	32.8	27.3	31.8
THCs	10.8	39.1	11.9	31.6	26.9	43.2	27.1	37.9	31.0	36.1
Anti-Epidemic	4.8	17.	7.2	19.1	9.0	14.5	9.0	12.6	12.6	14.6
MCH	0.8	2.9	.6	4.2	2.0	3.2	2.4	3.4	3.0	3.5
PHC	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.2	3.0	3.5
Other	2.0	7.3	4.3	11.4	6.0	9.6	6.5	9.1	9.0	10.5
Total	**27.6**		**37.3**		**62.3**		**71.4**		**85.9**	
Per Capita Exp.	**2.4**		**3.1**		**4.8**		**5.4**		**6.4**	

Source: The County Health Bureau

Table 26a: County Government recurrent health budget in constant 1980 prices

Item	1981	%	1985	%	1990	%	1991	%	1992	%
County Hospital	9.2	33.3	10.97	34.6	9.8	29.5	12.1	32.8	13.4	31.8
THCs	10.8	39.1	10.3	32.4	14.3	43.2	14.0	37.9	15.2	36.1
Anti-Epidemic	4.8	17.0	6.2	19.6	4.8	14.5	4.7	12.6	6.2	14.6
MCH	0.8	2.9	0.5	1.6	1.3	3.2	1.2	3.4	1.5	3.5
PHC	0.0	0.0	0.0	0.0	0.0	0.0	1.6	4.2	1.5	3.5
Other	2.0	7.3	3.7	11.7	3.2	9.6	3.4	9.1	4.4	10.5
Total	**27.6**		**31.7**		**33.2**		**37.0**		**42.2**	

Source: The County Health Bureau

5.2 Medical Fees

Per Capita medical care fees.
Average medical care fees per person were about 12.5 yuan in 1992 (table 27). However, such expenditure varies between the various schemes. The two-and-a-half per cent of

population covered by public service medical scheme accounted for 20 per cent of medical care expenditure. But 95 per cent of population (who are not covered by any insurance schemes) only accounted for 70 per cent of medical care expenditure.
The estimate of health expenditure paid by peasants is made from medical care fees at county hospital, township health centers, village health stations/health workers and private clinics.

Table 27: Per capita expenditure by payment scheme

Scheme		1990			1991			1992	
	Number (1000)	Exp. (¥1000)	Exp/ Capita	Number (1000)	Exp. (¥1000)	Exp/ Capita	Number (1000)	Exp. (¥1000)	Exp/ Capita
PSMS	3.0	278	92.7	3.3	325	985	3.5	313	89.4
LIS	3.0	89	29.7	2.9	130	44.8	3.3	198	60.0
Self Pay	125.6			126.9	1018	8.0	126.7	1157	9.1
Total	131.6			133.1	1473	11.1	133.5	1668	12.5

Source: The County Health Bureau

Outpatient service fees
Fees for outpatient visits at the County Hospital increased over the period 1990-92 (table 28). The average fees per visit in 1992 was 8.47 yuan, of which 80 per cent represented payment for drugs. At Township Health Centres, there were no significant changes in the average fees per visit over the past three years. Here, the average fee per visit was about 3.6 yuan, of which just under 90 per cent was for drugs. Average fees per visit at village level were estimated to be 2.5 yuan.

Table 28: Average fees for outpatient visits (yuan)

Level	Services	Drugs	Total	Drugs %
County Hospital				
1990	1.20	5.07	6.27	80.1
1991	1.42	6.03	7.45	80.9
1992	1.68	6.79	8.47	80.2
THCs				
1990	0.39	3.22	3.61	89.2
1991	0.32	3.16	3.48	90.1
1992	0.41	3.37	3.78	89.2

Source: The County Health Bureau

In 1992, the total outpatient service charges at the County hospital, township health centres, village health stations and private clinics was 1.2 million yuan. The average outpatient service fees per person was about 9 yuan.

In-patient service fees
In-patient services are provided mainly at the County and Township health facilities. The average fee per hospital admission at county hospital increased from 260 yuan in 1990 to 269 yuan in 1992 (table 29). Overall, the fees for drugs accounted for 62 per cent of the total in-patient service charges.

The average fees per admission at THCs decreased in the past three years. In 1992, the average expenditure per day was 16.8 yuan which was lower than in previous years. Drug cost represented 73 per cent of total hospital service fees. In 1992, the average in-patient service fee was estimated at 3.5 yuan.

Table 29: Average fees for inpatient services

Level		Expediture/Admission			Expenditure/Day			
	Average Days	Service	Drugs	Total	Service	Drugs	Total	Drugs (%)
County Hospital								
1990	8.8	117	143	260	13.3	16.3	29.6	54.9
1991	8.9	94	144	238	10.5	16.3	26.8	60.7
1992	8.9	102	167	269	11.4	18.8	30.2	62.2
THCs								
1990	5.0	37	79	116	7.5	15.8	23.3	67.9
1991	4.9	32	79	111	6.5	16.2	22.7	71.4
1992	5.4	25	66	91	4.6	12.2	16.8	72.5

Distribution of medical care fees

Medical care fees mainly went to county health hospital, Township Health Centres, village health stations and private clinics. In addition, the anti-epidemic station and the MCH station provided limited health services. In 1992, 40% medical care fees went to the County Hospital and 29% to Township Health Centres.

5.3 Finance and Expenditure of Medical Facilities

Income of county hospital

The County Hospital income has increased rapidly over time. In 1992 it was 953,000 yuan, more than four times the figure for 1981 (table 30).

Table 30: County Hospital Income (10,000 yuan)

Source	1981	%	1985	%	1990	%	1991	%	1992	%
Government	9.20	41.6	12.7	40.2	18.4	25.9	23.4	29.0	27.3	28.6
Services	1.75	7.9	4.5	14.2	18.4	25.9	17.3	21.4	19.8	20.8
Drugs	10.20	46.2	13.4	42.4	33.9	47.8	39.6	49.1	46.9	49.2
Other	0.94	4.3	1.0	3.2	0.3	0.4	0.4	0.5	1.3	1.4
Total	22.09		31.6		71.0		80.7		95.3	

Income came partly from Government and partly from service charges (which included profits from drug sales). Government as a proportion of total income has decreased over this period whilst that from service charges has increased. The largest increase has been income from diagnosis and non-drug treatment.

Expenditure of the County Hospital

Expenditure by the County hospital has increased gradually over the last decade. In the 1990s, nearly 50 per cent of spending was for drugs and between 32-36 per cent for staff. Over time, the proportion of the basic salary for staff has fallen considerably whilst that for subsidies and bonus payments have risen (table 31).

Table 31: County Hospital Expenditure (10,000 yuan)

Item	1981	%	1985	%	1990	%	1991	%	1992	%
Employees	6.0	28.3	9.5	32.1	18.8	31.6	21.4	31.7	30.3	36.8
Drugs	9.4	44.4	11.4	38.5	29.3	49.3	32.4	47.9	40.0	48.5
Materials	0.6	2.8	0.9	3.0	3.7	6.2	3.6	5.3	3.9	4.7
Operations	1.1	5.2	0.9	3.0	1.8	3.0	2.9	4.3	2.7	3.3
Admin.	1.3	6.1	0.3	1.0	0.9	1.5	1.2	1.8	1.4	1.7
Maintenance	2.4	11.3	4.6	15.6	1.9	3.2	2.5	3.7	0.7	0.9
Other	0.4	1.9	2.0	6.8	3.1	5.2	3.6	5.3	3.4	4.1
Total	21.2		29.6		59.6		67.6		82.4	
Savings	0.9		2.0		11.5		13.1		12.9	

Source: The County Helath Bureau

Incomes of Township Health Centres

Township Health Centres incomes have increased gradually over 1981-92 (table 32). The largest source of the incomes was drug sales, though Government financing has also increased over time, and represented about 39 per cent of total income in 1992.

Table 32: THC income (10,000 yuan)

Source	1981	%	1985	%	1990	%	1991	%	1992	%
Government	10.76	46.3	11.90	37.0	26.90	36.8	27.10	36.5	30.90	38.8
Services	0.98	4.2	1.29	4.0	7.13	9.8	6.45	8.7	6.90	8.7
Drugs	11.30	48.6	17.38	54.0	37.60	51.5	39.00	52.5	41.00	51.6
Other	0.22	0.9	1.60	5.0	1.40	1.9	1.68	2.3	0.70	0.9
Total	23.26		32.17		73.03		74.23		9.50	

Source: The County Health Bureau

Expenditure of Township Health Centres

Township Health Centres expenditure has risen gradually and in 1992 was three times their 1981 level. The largest expenditure was for purchasing drugs followed by payment for staff. Bonus and subsidies have increased in importance for staff income compared to the basis salary.

Table 33: THC expenditure (10,000 yuan)

Item	1981	%	1985	%	1990	%	1991	%	1992	%
Employees	7.21	29.5	11.24	33.4	20.90	31.5	23.54	33.3	29.60	40.1
Drugs	11.24	46.1	15.00	44.6	31.96	48.0	33.50	47.3	34.70	47.0
Materials	0.83	3.4	1.13	3.4	0.75	1.1	1.10	15.6	0.70	0.9
Operations	0.36	1.5	1.50	4.5	2.44	3.7	3.20	4.5	3.20	4.3
Admin.	0.72	3.0	1.30	3.9	1.43	2.2	2.60	3.7	2.20	3.0
Maintenance	3.47	14.2	1.79	5.3	5.94	8.9	1.50	2.1	0.00	0.0
Other	0.57	2.3	1.64	4.9	3.06	4.6	5.31	7.5	3.50	4.7
Total	24.40		33.60		66.45		70.75		73.9	
Savings	-1.14		-1.43		6.58		3.48		5.6	

Source: The County Health Bureau

Service fees

In the early 1980s, income from outpatient services at county hospital was higher than that from in-patient services (table 34). This situation was reversed in the early 1990s. However, the Township Health Centres rely mainly on outpatients and in-patient services are limited.

Table 34: Incomes by type of service and level (10,000 yuan)

Level	1981	%	1985	%	1990	%	1991	%	1992	%
County Hospital										
OP	8.0	66.9	7.2	40.2	19.9	38.0	25.1	44.1	30.2	45.3
IP	4.0	33.1	10.7	59.8	32.4	62.0	31.8	55.9	36.5	54.7
Total	12.0		17.9		52.3		56.9		66.7	
THCs										
OP	9.9	80.9	15.3	81.9	34.0	76.0	33.8	74.4	37.7	78.7
IP	2.4	19.1	3.4	18.1	10.8	24.0	11.6	25.6	10.2	21.3
Total	12.3		18.7		44.7		45.5		47.9	

Source: The County Health Bureau

Drug profits

The mark-up on drugs at the County Hospital and Township Health Centres was about 17 per cent. The profit from drug sales has risen every year at county hospital and Township Health Centres. Table 35 shows the profits from drug sales at County Hospital and Township Health Centres. These data might be underestimates; in 1992, the Head of the County Hospital stated

in an interview that the profit from drugs was 200,000 yuan which was far higher than the figure given here.

Table 35: Drug income and expenditure (10,000 yuan)

Year	County Hospital				THCs			
	Income	Exp.	Income/ Exp (%)	Profit	Income	Exp.	Income/ Exp (%)	Profit
1981	10.2	9.4	108.5	0.8	11.3	11.2	100.9	0.1
1985	13.4	11.4	117.5	2.0	17.4	15.0	116.0	2.4
1990	33.9	29.3	115.7	4.6	37.6	31.9	117.9	5.7
1991	39.6	32.4	122.2	7.2	39.0	33.5	116.4	5.5
1992	46.9	40.0	117.3	6.9	41.0	34.7	118.2	6.3

5.4 Preventative Health Institutes: Finance and Expenditure

Incomes of anti-epidemic and MCH stations.

The anti-epidemic station and the MCH station are termed "full range budget" institutes ie fully financed by the Government. Over the period 1981-92, the total incomes of, and Government funding to the two institutes have increased (table 36). However, over time, the proportion of funding by government has fallen. In the early 1980s, Government funding accounted for 96 per cent of the income of the anti-epidemic station and and 90 per cent of the MCH station. By the 1990s, these had fallen to 87 per cent and 70 per cent, respectively.

Table 36: Incomes of Anti-Epidemic and MCH Stations (10,000 yuan)

Source	1981	%	1985	%	1990	%	1991	%	1992	%
AES										
Government	4.67	95.6	7.20	96.3	8.96	87.7	9.02	85.4	12.60	87.7
Services	0.22	4.4	0.28	3.7	1.26	12.3	1.54	14.6	1.77	12.3
Total	4.98		7.48		10.22		10.56		14.37	
MCH										
Government	0.80	87.0	1.60	90.4	2.00	64.1	2.40	69.6	3.00	68.2
Services	0.12	13.0	0.17	9.6	1.12	35.9	1.05	30.4	1.40	31.8
Total	0.92		1.77		3.12		3.45		4.40	

Source: The County Health Bureau

Expenditure of the anti-epidemic station

The major expenditure of the anti-epidemic station were for staff, service operation (ie maintenance) and administration (table 37). Staff payments have reached about 55 per cent in the past three years. Service operation expenditure (in both absolute and relative terms) has decreased over the past three years. According to the Head of the Station, this was due to lack of funds.

Table 37: Anti-Epidemic Station expenditure (10,000 yuan)

Item	1981	%	1985	%	1990	%	1991	%	1992	%
Employees	2.02	42.3	2.72	38.0	5.58	55.1	5.91	56.1	7.95	56.1
Drugs	0.59	12.4	0.00	0.0	0.26	2.6	0.25	2.3	0.05	0.35
Materials	0.00	0.0	0.00	0.0	0.04	0.4	0.05	0.5	0.05	0.35
Operations	0.91	19.1	3.50	49.0	2.93	28.9	2.20	20.9	1.90	13.4
Admin.	0.96	20.1	0.73	10.2	0.67	6.6	0.62	5.9	1.18	8.3
Maintenance	0.11	2.3	0.04	0.6	0.00	0.0	0.22	2.1	2.10	14.8
Other	0.18	3.8	0.16	2.2	0.65	6.4	1.29	12.2	0.95	6.7
Total	4.77		7.15		10.13		10.54		14.18	
Savings	0.21		0.33		0.09		0.02		0.19	

Source: The County Health Bureau

In the 1990s, basic salaries represented 70 per cent of staff income with subsidies and bonuses as the remainder (table 38).

Table 38: Anti-Epidemic Station payments to health workers

Year		Salary	Subsidy	Bonus	Total	Workers
1981	Total	14000.0	5300.0	900.0	20200.0	23
	%	69.3	26.2	4.5	100.0	
	/Capita/Month	50.7	19.2	3.3	73.2	
1985	Total	21000.0	4000.0	2200.0	27200.0	25
	%	77.2	14.7	8.1	100.0	
	/Capita/Month	70.0	13.3	7.3	90.6	
1990	Total	43300.0	6300.0	6200.0	55800.0	31
	%	77.6	11.3	11.1	100.0	
	/Capita/Month	116.4	16.9	16.7	150.0	
1991	Total	43300.0	9900.0	5900.0	59100.0	28
	%	73.3	16.7	10.0	100.0	
	/Capita/Month	128.9	29.5	17.5	175.9	
1992	Total	53500.0	14000.0	12000.0	79500.0	28
	%	67.3	17.6	15.1	100.0	
	/Capita/Month	159.2	41.7	35.7	236.6	

Source: The County Health Bureau

Expenditure of the MCH station

MCH station expenditure was mainly for staff and service operation including drug purchase (table 39). Although service operation expenditure has increased in absolute terms, it has decreased in proportionate terms. Salaries have increased in importance over time (table 40), but the basic salary component has gradually decreased as a proportion of the total.

Table 39: MCH Expenditure (10,000 yuan)

Item	1981	%	1985	%	1990	%	1991	%	1992	%
Employees	0.27	34.6	0.85	50.6	1.53	50.2	1.70	48.2	2.17	50.5
Drugs	0.06	7.7	0.14	8.5	0.57	18.7	0.48	13.6	0.60	14.0
Materials	0.02	2.5	0.03	1.8	0.10	3.3	0.00	0.0	0.07	1.6
Operations	0.35	44.9	0.49	29.5	0.62	20.3	0.75	21.2	0.70	16.3
Admin.	0.07	9.0	0.06	3.6	0.23	7.5	0.34	9.6	0.20	4.6
Maintenance	0.00	0.0	0.00	0.0	0.00	0.0	0.11	3.1	0.40	9.3
Other	0.01	1.3	0.10	6.0	0.00	0.0	0.15	4.3	0.16	3.7
Total	0.78		1.66		3.05		3.53		4.30	
Savings	0.14		0.11		0.07		-0.08		0.10	

Source: The County Health Bureau

Table 40: MCH Payments to Health Workers

Year		Salary	Subsidy	Bonus	Total	Workers
1981	Total	2100.0	400.0	200.0	2700.0	7
	%	77.8	14.8	7.4	100.0	
	/Capita/Month	25.0	4.8	2.4	32.1	
1985	Total	6100.0	1500.0	800.0	8400.0	8
	%	72.6	17.9	9.5	100.0	
	/Capita/Month	63.5	15.6	8.3	87.5	
1990	Total	11600	2100.0	1600.0	15300.0	8
	%	75.8	13.7	10.5	100.0	
	/Capita/Month	120.8	21.9	16.7	159.4	
1991	Total	12000	3400.0	1600.0	17000.0	8
	%	70.6	20.0	9.4	100.0	
	/Capita/Month	125.0	35.4	16.7	177.1	
1992	Total	14000	4000.0	3700.0	21700	9
	%	64.5	18.4	17.1	100.0	
	/Capita/Month	129.6	37.0	34.3	200.9	

Source: The County Health Bureau

Table 41: Expenditure by county and township level facilities 1990-92 (1990 prices)

	1990	1991	1992	Increase 1990-92 (%)
County hospital	59.6	65.7	75.9	27.4
THCs	66.5	68.8	68.1	2.4
MCH	3.1	3.4	4.0	29.0
AES	10.1	10.5	13.1	29.7

Source: The County Health Bureau

Table 42: Item expenditure in county and township level facilities 1990-92 (1990 prices)

	1990	1991	1992	Increase 1990-92 %
Staff	46.8	51.1	64.5	37.9
Drugs	62.1	64.8	69.5	11.9
Material	4.6	4.6	4.4	-5.2
Equipment/Maintenance	7.8	4.2	3.0	-62.4
Others	17.9	23.5	19.8	10.7

Source: The County Health Bureau

5.5 The child prepaid immunization program

In 1988, Shibing county initiated a child prepaid immunization program. All children under seven who did not have chronic diseases or other allergies were eligible. Four vaccines (BCG, PTO, measles, polio) are provided with the premiums varying with the age of the child (Table 43).

Table 43: Four vaccines premium and compensation payments

Age Group	premium (yuan)	compensation (yuan)	
under 12 months	7-14	**polio**	200
1-2 years	6-10	**tetanus**	100
3-4 years	4- 6	**diphtheria**	100
5-6 years	2- 4	**measles**	20
7 years	2- 3	**whooping cough**	20

6. Summary

Shibing is located in the South-West of China on the Yun-Gui plateau. The total area is 1542 square kilometre. The population density per square kilometre is 86.5. The average arable land was 0.92 mu. The average temperature was 16° C. In 1992, its population was 133,500, of which 47 per cent were from minority groups. Ninety seven per cent of the population live in rural areas.

In 1992, the GNP per capita was 662 yuan (in 1990 prices). Average expenditure on health services was 24 yuan per capita. The average recurrent health expenditure was 6.4 yuan. The recurrent health expenditure accounted for 5 per cent of the County government spending.

In 1992, the five major causes of death were due to respiratory problems, digestive disorders, circulatory problems, infectious and parasitic diseases, and injuries or poisoning. The death rate was 7.9 per 1000 population. The infant mortality rate was 70.6 per 1000 live births in 1992. The birth rate 27.5 per 1000. The life expectancy was 65.8 years.

Shibing has five health facilities at county level, 18 Township Health Centres and 92 village health stations. It also has 178 beds. There are 354 full time staff working at these facilities at the County and Township levels and 349 part-time health workers at the village level. The number of beds per 1000 population was 1.3. Whilst, a three-tier network of rural health care exists, the qualification of health workers is low. Only 9.5 per cent of health workers at county and township levels obtained college/university education. The efficiency of health service provision was very low in terms of the occupancy rates and the number of patients seen by a doctor.

In 1992, the four vaccines coverage was 85 per cent and the percentage of babies delivered at hospital and health centres was only 20 per cent.

The public service medical scheme and the labour insurance scheme only cover around 2.5 per cent of the population. The remainder have to pay for health services themselves. These three different groups shared 16.7 per cent, 10.5 per cent and 72 per cent of medical care fees. People covered by the schemes tended to overuse the services while those not covered by any insurance had difficulty in getting health care.

According to the Head of County hospital, in recent years about half of all in-patients left hospital because of lack of money.

Fifty seven per cent of total health expenditure was financed by the (different levels of) government and collectives. Most of the recurrent health budget funded by the government was allocated to the County Hospital and Township Health Centres. Preventive institutes only got a small percentage. All health facilities considered that they were short of funds. However, there was a consensus that the County Hospital was well financed. The preventive institutes were short of funding which influenced service operation.

FINANCING RURAL HEALTH SERVICES IN CHINA:
Xunyi County, Shaanxi Province

Gao Jian-Min[1], Zhang Su-Zhen[2], Wu Zhuo-Chun[3] and Li Jiang-Hui[3]

1. Introduction

1.1 The Data

Data was collected from a study involving fifteen Government Institutes, three Township Health Centres (THCs) and six Village Health Stations (VHSs) in Xunyi County. Interviews and focus group discussions were organised with key informants and relevant documents collected. Data was carefully cross-checked and screened and should therefore correspond to National and Provincial Statistics.

1.2 Background Information

Xunyi County is located in the north-east of Shaanxi Province in Northern China. The County covers 1,811 kilometres. In 1992, the population was 243,187, comprising 56,459 households, of which 94.7% are located in rural areas. The population live in 12 townships, 5 towns and 231 villages.

Table 1a: Population data 1990-1992

Year	Population	Households	Peasants	% Population
1990	236805	53513	225036	95.0
1991	239591	54896	227443	94.9
1992	243187	56459	230449	94.7

Source: Shaanxi Yearbook, 1992.

Table 1b: Demographic indicators (per 1000)

Year	Birth Rate	Death Rate	Increase Rate	Maternal death rate	IMR
1981	18.7	7.1	11.6	1.54	65.7
1985	13.1	5.6	7.4	1.29	54.1
1990	29.9	6.6	23.4	1.13	47.6
1991	14.9	4.6	10.3	1.07	46.8
1992	14.8	4.6	10.2	1.12	45.9

Source: County Health Bureau and County Statistics Bureau Data

Some 16% of the land is arable and the main agricultural products include corn, wheat, beans, oil vegetables and tobacco. Sugar is also an important crop, yielding 7523 tons in 1992. Forest surrounds the mountainous townships while apple orchards provide a productive base for plateau townships. Coal mines located in a number of townships produce about 587,000 tons of coal per year .

A household survey indicated that the average income of the rural population overall in 1991 was 420 yuan. In an interview with the heads of the County Civil Administration Bureau it was suggested that approximately 30% of the population live in poverty. However,.they do not calculate an official poverty line. There are 140 five guarantee households (161 persons). Only 0.06% of the population are categorised as 'minority groups'. In 1992, the illiteracy rate in the population over 15 years was 27.4%. Average life expectancy over the whole population was 65.9 years - 65.6 years for males and 66.2 years for females.

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The County is served by 340 health facilities constituting a three-tier network of rural health care services. Each township has a Health Centre and each village is served by a Health Station. Health indicators for Xunyi County are similar to the Provincial averages but are lower than the National Average.

Table 2: Health Indicators (1991)

	Xunyi County	Shaaxi Province	China
Death rate (1000)	4.6	6.5	6.50
Life expectancy	65.9	68.5	70
IMR (1000)	47	42	40
Maternal death rate (100,000)	87.8	130	94.7
Infectious Disease Morbidity (100,000)	116	286	287

Source: County Health Bureau and China Health Yearbook,1991.

Under Government definitions, 7 townships and 111 villages are categorised as 'poor'. In 1992, 2898 households, 13,040 people representing 5.4% of the population, received relief aid from the Government totalling 223,000 yuan. About 26,500 yuan was used for medical care.

2. Economic Conditions

Data from the County Statistics Bureau show that in 1992:

- GNP stood at 181.5 million yuan; GNP per capita was 746 yuan.
- 5,878 Township and Village enterprises raised revenue of 65.68 million yuan.
- The average annual income per employee was 5568 yuan. This is compared with an average income per capita of 493.5 yuan.
- County Government revenue was 31.03 million. Expenditure was 30.74 million, of which 8% was spent on the Health Sector.

Table 3: Trends in Gross National Product

	1981	1985	1990	1991	1992
GNP (10,000 yuan)	4,409	8,028	15,345	18,066	18,150
Annual rate of growth		16.16	14.86	15.15	13.73
GNP per capita (yuan)	212.58	374.09	648.00	754.04	746.34

Source: The County Statistics Bureau

Table3a: Trends in Gross National Product in 1981 prices

	1981	1985	1990	1991	1992
GNP (10,000 yuan)	4,409	6,935	8,178	9,356	8,918
Annual rate of growth		11.99	7.11	7.81	6.61
GNP per capita (yuan)	212.58	323	345	390	367

Source: The County Statistics Bureau

Table 4: Output and profits of township and village enterprises (TVEs)

	No of TVEs	Employees	Product ¥10,000	Profits ¥10,000	Average income (¥)
1990	4,906	14,570	4,121	794	3776.9
1991	4,911	13,763	5,019	981	4940.8
1992	5,878	16,522	6,568	1,283	5568.3

Source: The County Statistics Bureau

Table 5: County Government income and expenditure, 1990-92 (10,000 yuan)

	County revenue	%	Transfers	%	Total income	Govt. Expend.	Health Expend.	%
1990	1,706	59.7	1,153.2	40.3	2,859.2	2,607	91.7	3.52
1991	2,164	67.7	1,034.6	32.4	3,198.1	2,858	97.1	3.40
1992	2,120	68.3	983.5	31.7	3,103.1	3,075	109.5	3.56

Source: The County Statistics Bureau

In 1992 the county government expenditure accounted for 16.94 percentage of GNP and average expenditure per capita was 126.43 yuan.

Table 6: Comparison of health expenditure between Xunyi County and China

	1990		1991		1992	
	Xunyi	China	Xunyi	China	Xunyi	China
Health expenditure as % of GNP	2.5	3.6	2.5	3.7	3.1	-
Health expenditure per capita (yuan)	16.4	58.1	20.0	62.6	25.6	-

Source: County Health Bureau, Ministry of Public Health

3. Education

Xunyi has 352 schools into which 38037 students enrol. These schools comprise 333 primary schools, 17 middle schools and 2 vocational schools.

4. Health Services

4.1 Health Care Facilities

Health care facilities in Xunyi County include:

- County Hospital;
- Traditional Chinese Medicine Hospital (TCMH);
- Anti-Epidemic Station;
- Maternal and Child Health Station (MCH) Station;
- Endemic Disease Prevention Centre;
- Pharmaceutical Testing Station;
- Health Care Schooling.

There are also fifteen Township Health Centres (THCs) and 268 Village Health Stations (VHSs) located throughout the County.

4.2 Management Structure

The Provincial and Prefectural Health Departments operate a mainly technical relationship with the County Health Bureau, with an emphasis on training. The Departments do sometimes provide financial support for the construction of health facilities and for special disease prevention programmes.

The Provincial and Prefectural Departments:

- provide supervision;
- assign tasks through annual health meetings and official documents;
- examine and monitor the County Health Bureau through various mechanisms, including evaluation.

The County Government is responsible for the implementation of health plans and strategies:

- The Department for Personnel appoint Deputy Directors of the Health Bureau and Heads of Health Facilities.
- The Department of Finance appropriates funds to the Health Sector.
- The Department of Civil Affairs is responsible for social relief, including subsidising poor households afflicted with severe diseases and having to pay big medical bills.

The County-Level Communist Party Committee:

- has the power of appointing the Director of the Health Bureau;
- defines priorities for health care provision.

The County Health Bureau:

- has the power of appointing Heads of Township Health Centres;
- supervises health services provided at the Township level;
- provides technical support to the Township Health Centres.

All the health care facilities listed below are co-ordinated directly by the County Health Bureau.

The Township Governments:
- take responsibility for allocating funds to the Health Centres;
- through the Township Health Centres, provide training and supervision to meet the needs of Village Health Stations.

The Village Committee is responsible for appointing health workers for Health Stations.

The Committee of the Old Liberated Construction Zone provides some funding for improving safe water and the construction of health facilities in rural areas.

The Family Planning Committee plays a role in improving the quality of health of the population and controlling birth rates. Technical support is provided by the Health Bureau.

The Patriotic Health Committee is responsible for health education and improving latrine hygiene.

The Endemic Disease Prevention Group is responsible for day-to-day administrative tasks.

The County Pharmaceutical Company supplies Western and Chinese drugs to the health service sectors.

4.3 Health Planning and Problems

The implementation of Primary Health Care is a key issue in health care provision. So far, the emphasis has been on child immunisation, MCH services and health monitoring. Each of these areas requires directing, organisation, development planning, implementation strategies and effective tools for evaluation.

In interviews with the heads of the County Health Bureau the main obstacles to effective and efficient implementation of Primary Health Care policies were identified as:
- insufficient funding;
- difficulties in promoting effective health education;
- inadequate latrine improvement;
- general poor management of health services.

4.4.Current Health Care Payment Systems

Three major health care payment systems operate in Xunyi County:
- the Public Service Medical Scheme (PSMS);
- the Labour Insurance Scheme (LIS);
- self-payment.

The Public Service Medical Scheme

According to information provided by the head of the County Insurance Company, this scheme provides cover for 5,111 government employees and has recently been reformed. The County Government pays 130 yuan per employee in premiums to the County Insurance Company. Under the insurance, a hospital is specified to which the employee must go if in need of medical attention. The Insurance Company will cover up to 80% of expenditure on outpatient services and 70-100% of expenditure on inpatient services (depending on the number of years worked by the employee). If the employee pays more than 300 yuan in a year, the extra costs are compensated by the County Government.

The Labour Insurance Scheme

This scheme covers about 10,000 enterprise employees. The percentage reimbursement of medical costs to employees by the enterprise varies.

Self Payment
The vast majority of peasants have to pay for health services out of their own pockets. Focus group discussions with peasants indicated that there have been rapid rises in the cost of health services, and that many households find it increasingly difficult to pay for necessary hospital care. County Health Bureau Officials are concerned that the link between the income levels of some health workers and drug sales has resulted in escalating costs and poor quality of medical care. Some villages provide financial subsidies to village health workers and do not allow them to charge service fees.

4.5 Drug Supplies in the Health Sector
One pharmaceutical manufacturing company exists, producing a range of drugs including glucose, water, antibiotics, vitamins and traditional Chinese drugs. The County Pharmaceutical Company is controlled by the County Commerce Bureau and is responsible for purchasing drugs from other pharmaceutical companies through the market place or directly from manufacturers. The mark-up rate for western drugs is generally set at 15%, while that for Chinese traditional medicines is set at 25%.

4.6 The Condition of Rural Health Services
The County Government belive that economic reforms have resulted in improved rural health services, in particular, an increased access to health services by the rural population. They indicated that the three-tier network of rural health care has been strengthened and a substantial number of health workers have been trained specifically to support countryside health services.

The main problems which they raised concerned:
- the poor qualifications of health workers
- the movement of skilled health workers out of the countryside
- the payment mechanisms for health workers.

The heads of the Township Government expressed the view that a significant proportion of household poverty can be attributed to severe diseases and the cost incurred by necessary medical treatment. They felt that there was still no effective way of ensuring that peasants could gain access to health services to meet their needs.

5. Health Facilities, Health Workers and the Health Service

5.1 Health Facilities
There are 340 Health Care Facilities:
- County General Hospital;
- Traditional Chinese Medicine Hospital;
- Anti-Epidemic Station;
- MCH station;
- Pharmaceutical Testing Centre,
- Endemic Disease Prevention Station;
- Health School;
- Township Health Centres (THCs) (10 Health Centres and 5 District Hospitals);
- Health Stations (268 in villages, 7 in enterprises and 43 private clinics).

Of 43 private clinics 30 are located at village level and the others are at capital towns of the twosnhips in the county. All doctors working at these clinics had to pass the examination organized by prefectural (municiple) health department. As reported by the county health bureau, the average income per private practitioner was about 150 yuan and average fee per consultation was 4-5 yuan.

5.2 Health Workers
There are 1018 health workers; 249 working at the County level, 160 at Township levels and 535 at a Village level. Of these, 793 have qualifications or certificates (table 4).

5.3 Hospital Beds

There are 418 Hospital beds in the County; 180 at County Hospitals, 181 in Township Health Services and 57 in Enterprise Clinics (table 7).

Table 7: Health Facilities, Health Workers and Hospital Beds in Xunyi County , 1992

	Facilities	Health Workers	Licensed Health Workers	Hospital Beds
County level	7	249	203	180
Township level	15	160	144	181
Village level	268	535	375	0
Enterprises	7	31	28	57
Private	43	43	43	0
Total	**340**	**1018**	**793**	**418**

Source: County Health Bureau

5.4 Ownership of Township and Village Health Facilities

Of the fifteen THCs, nine are Collective owned and six State owned. Some Village Health Stations are owned jointly by Private and Collective Sectors, the remainder by the Collective.

5.5 Health Workers by Age and Sex

The distribution is detailed in tables 8 and 9.

Table 8: Sex Ratio of health workers by level

Health Facility	Male		Female	
	No.	%	No.	%
County Hospital	81	39.9	122	60.1
Township	102	70.8	42	29.2
Total	**183**	**52.7**	**164**	**47.3**

Source: County Health Bureau

Table 9: Number of health workers by age and level

Age Group	County		Township	
	No.	%	No.	%
<20	1	0.5	0	0.0
20-29	55	27.1	49	34.0
30-39	61	30.1	51	35.4
40-49	69	34.0	22	15.3
50-54	17	8.3	17	11.8
55-59	0	0.0	5	3.5
60+	0	0.0	0	0.00
Total	**203**	**100.0**	**144**	**100.0**
Median Age	**37.5**		**34.5**	

Source: County Health Bureau

5.6 Educational Qualifications, Rank and Specialisation of Health Workers

Table 10: Educational qualifications of health workers

Facility	Primary School		Junior High School		Senior High School		Vocational School		College		University	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
County	9	4.4	59	29.1	57	28.1	69	40.0	8	3.9	1	0.5
Township	3	2.1	42	29.2	18	12.5	64	44.4	13	9.0	4	2.8
Total	**12**	**3.5**	**101**	**29.1**	**75**	**21.6**	**133**	**38.3**	**21**	**6.1**	**5**	**1.4**

Source: County Health Bureau

Table 11: Health Workers by Rank

	Chief		Consultant		Doctor		Assistant Doctor		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%
County	2	0.82	15	7.39	49	24.24	100	49.26	37	18.23
Township	0	0.00	9	25.00	30	20.83	91	63.19	14	9.27
Others	0	0.00	2	2.82	2	2.82	67	94.37	0	0.00
Total	**2**	**0.48**	**26**	**6.22**	**81**	**19.38**	**258**	**61.72**	**51**	**12.20**

Source: County Health Bureau

Table 12: Health Workers by Specialisation

Facility	Medical		Nursing		Pharmaceutical		Others	
	No.	%	No.	%	No.	%	No.	%
County	90	44.3	57	28.1	18	8.9	38	18.7
Township	65	45.1	43	29.9	21	14.6	15	10.4
Others	56	78.9	5	7.0	8	11.3	55	13.2
Total	**211**	**50.48**	**105**	**25.12**	**47**	**11.2**	**55**	**13.2**

Source: County Health Bureau

5.7 Income and Sources of Income of Health Workers

In 1992, about 80% of employees' base salary, subsidies and bonuses were financed by the Government. The remainder was supplemented by profits from service charges and drug sales. The average income of health workers is on a par with employees from other Government institutions. There are a small number of health care facilities which generate higher levels of revenue and are subsequently able to offer better incomes to their employees. However, Township Health Centres generally have a poor fiscal status and therefore offer lower incomes than County Services. Greater detail is provided in tables 13 and 14.

Table 13: Average income of health workers 1992 (yuan)

	County Hospital	%	AES	%	MCH	%	THC	%
saaries	1,364	47.4	1,154	33.7	1,310	46.3	1,423	44.3
subsidies	1,285	44.7	1,885	55.1	1,104	39.0	1,260	39.2
bonus	232	8.1	385	11.2	414	14.6	532	16.5
total	**2,881**		**3,423**		**2,828**		**3,214**	

Source: The County Health Bureau

Table 14: Income distribution of health workers

Income/Month (yuan)	County		Township	
	No.	%	No.	%
<100	4	3.7	4	9.5
100-149	18	16.8	8	19.1
150-159	48	44.9	21	50.0
200-249	28	26.2	9	21.4
250-299	8	7.5	0	0.0
300-500	1	0.9	0	0.0
Median	**107**	**182.8**	**42**	**181.0**

Source: County Health Bureau and Township Health Centres

5.8. Movement of Health Workers

Interviews with the heads of the County Government and County Health Bureau indicated that few medical graduates have been recruited by the County Health Bureau and even once recruited, it is very difficult to keep qualified health workers in the County. Furthermore, in recent years the movement of qualified health workers from the countryside to larger cities has posed an increasing problem. In the period from 1970 to 1990, 51 health workers graduating

from medical colleges and universities left Xunyi County. Major reasons for this have been identified as:

- joining spouses or families;
- pursuing higher incomes and better living standards.

At present, only five health workers throughout the range of health care services in the County have formal medical/public health training acquired from medical colleges or universities.

6. The Utilisation of Health Services

6.1 Utilisation of Outpatient Services

Interviews with the heads of THCs and focus group discussions with peasants suggested that since the 1980s the quantity of outpatient services provided at County and Village levels has slightly increased, paralleled by a decrease in the volume of services offered at township level. This was associated with the greater costs incurred to users of township services in comparison to village health care, especially where services offered at township level are similar to those offered at the village level. As a result, people are more likely to use village health care, unless the medical problem is severe, in which case village health care is often inadequate and medical attention must be sought at the County Hospital. Table 15 shows the utilisation of the different health care facilities by outpatients.

Table 15: Volume of OP visits

Health Care Facility	Number of OP Visits				
	1981	1985	1990	1991	1992
County Hospital	34880	50101	53335	50701	52878
TCMH	-	21047	30727	29537	31059
Township Centres	200613	222449	182267	150522	179133
Village Stations	853421	912186	953214	998147	1022000
Total	**1088914**	**1205783**	**1219543**	**1228907**	**1285070**

Note: the number of outpatient services provided by Village Health Stations is an estimate based on a sample survey. The OP visits at seven enterprise health sations and 43 private clinics were not included here.
Source: County Health Bureau

6.2.Utilisation of Inpatient Services

In past years, the number of inpatients treated at the County Hospital averages at 1000 people annually. However, recent years do reveal a slight increasing trend. 1981 in particular witnessed a large increase in inpatients at the County Hospital due to a family planning campaign in which women were encouraged to undergo an operation involving the ligation of the oviduct. Only very small changes are apparent in inpatient usage of the Traditional Chinese Medicine Hospital and the Township Health Centres (table 16).

In 1992, 4.37 people per 100 used hospital care. The length of stay in hospital *per capita* was 0.31 days (7 days per inpatient).

Occupancy levels of beds in all inpatient facilities stood at 59.4%. Broken down, bed occupancy rates for the County Hospital, the Traditional Chinese Medicine Hospital and Township Health Centres was 80 8%, 63.3% and 45.0% respectively. These figures indicate a declining trend in bed occupancy levels in recent years.

Table 16: Hospital utilisation

Year	1981	1985	1990	1991	1992
No. of Inpatients	**13831**	**7478**	**9805**	**9787**	**10621**
County Hospital	4413	2114	2453	2483	2783
TCMH	-	624	799	983	927
THC Hospitals	9418	4740	6553	6321	6911
Total Days	**66782**	**50182**	**66575**	**74527**	**73972**
County Hospital	36719	26329	35716	33322	38330
TCMH	-	3059	5241	6352	6935
THC Hospital	30063	20794	25618	24851	29707
Occupancy rate total (%)	**85.9**	**63.07**	**67.31**	**58.73**	**59.43**
County hospital	100.6	72.10	97.85	70.23	80.78
TCMH	-	55.87	59.40	69.60	63.33
THC	56.41	39.02	48.07	46.63	44.97
Turnover rate total (%)	**64.93**	**34.34**	**36.18**	**32.51**	**29.42**
County Hospital	44.13	21.14	24.53	19.10	21.48
TCMH	-	41.60	31.96	39.32	30.90
THC	83.35	46.02	44.88	43.29	38.18

Source: County Health Bureau

The ratio of licensed health workers per bed was the highest in the County Hospital, although the ratio of doctors per bed was the greatest in the Township Health Centres (table17).

Table 17: Ratios of hospital beds and health workers

Facility	Workers/Bed	Doctors/Bed	Nurses/Bed
County Hospital	1.16	0.90	0.88
TCMH	0.35	0.33	0.48
Township Health Centres	0.28	0.17	0.07

Source: County Health Bureau

6.3. Utilisation of Preventive Services - The Immunisation Programme

The head of the County Anti-Epidemic Station provided the information that immunisation has gradually increased since the 1980s with the implementation of a 'pre-payment' programme which has to date targeted 96% of children. Immunisation of children under 7 years old for the four most important vaccines had reached 95.5% by 1990 (table 14).

Table 18: Immunisation levels for children (%)

Year	MV	TOPV	BCG	DPT	Total
1981	63.0	41.8	37.5	32.2	17.3
1985	80.5	69.0	69.3	43.8	28.1
1990	96.2	94.8	95.7	94.8	92.9
1992	98.5	99.5	100.0	97.0	95.5

Source: The Anti-epidemic Station

7. Expenditure and Finance in the Health Service

7.1 Total County Health Expenditure

Table 19 shows that between 1990 and 1992, total County Health Expenditure increased from 3.878 million to 5.689 million yuan (in constant prices). Average expenditure on health services per person for this period increased annually from 16.37 yuan to 18.88 yuan and 23.39 yuan respectively. This gives annual growth rates of 15.3% and 23.9% for1990/1991 and 1991/1992. Health expenditure increased from around 3% to 4% of total National Income between 1990 and 1992.

Table 19: Total health expenditure 1990-1992

Year	Population	Expenditure (¥10,000)	Yuan/person	NI (¥10,000)	% of NI
1990	236805	387.8	16.4	11607	3.34
1991	239591	478.2	20.0	14748	3.24
1992	243187	622.2	25.6	14374	4.33

Source: County Statistics Bureau

Table 19a: Total health expenditure in 1990 prices 1990-92

Year	Population	Expenditure (¥10,000)	Yuan/person	NI (¥10,000)	% of NI
1990	236,805	387.8	16.4	11,607	3.34
1991	239,591	468.2	20.0	14,438	3.24
1992	243,187	601.9	24.8	13,907	4.33

Source: The County Statistics Bureau

7.2 Sources of Finance

There are two major sources of funding for Health Care facilities in Xunyi County (table 20):

1. The County Government

The County Government provides funds through a number of channels. Most significantly:

- Recurrent health care expenditure
- Special Funding, including disease prevention
- Investment in the construction of health care facilities.
- The Public Service Medical Scheme to cover expenditure on medical care for government employees.
- The Family Planning Programme.

2. Individual Households

Increases in the income of peasants and initiatives to control the cost of the Public Service Medical Scheme has meant that in past years, payments for services by households has contributed more to health care funding than the other sources.

Table 20: Sources of finance for the health sector, 1991-92 (10,000 Yuan)

	1990	1991	1992	Growth rate 90-92
Province/prefecture	10.0	10.0	20.0	50.0
County government	125.4	150.2	162.7	14.9
PSMS	48.7	59.5	81.6	33.8
LIS[1]	63.3	83.3	111.8	38.3
Self-payment[2]	140.4	175.2	246.1	37.6
Total [3]	**387.8**	**478.2**	**622.2**	**30.2**

Notes: 1. The expenditure of the LIS was estimated based on the information of the co-insurance prgrammes at various enterprises and the average health care expenditure per person in the county. 2. The expenditure of the self-payment does not include payments at enterprise and villages health stations or private clinics. 3. Total health expenditure did not include finanical support from UNICEF.

Source: County Finance Bureau

Table 20a: Sources of finance for the health sector in 1990 prices (10,000 Yuan)

	1990	1991	1992	Growth rate 90-92
Province/prefecture	10.0	9.8	19.4	45.1
County government	125.4	146.9	157.4	11.8
PSMS	48.7	58.3	78.9	29.7
LIS	63.3	81.6	108.1	34.1
Self-payment	140.4	171.6	238.1	33.5
Total	**387.8**	**468.2**	**601.9**	**26.4**

Funds from the provincial and prefectural levels in 1990-92 were mainly used to construct the County MCH center. Xunyi county also recieved finanical support from UNICEF to strengthen MCH services at county, township and village levels. There was a requirement for those counties obtaining UNICEF funding that local government had to invest 'matching funds' to support the development of MCH services. In addition. the Provincial Health Department provided 100,000 yuan for the County Anti-Endemic Station to construct a new building.

7.3 County Government Expenditure

Table 21 provides information on County Government expenditure on health care services for 1981-1992. Over this period, the Government increased financial support to health care in all areas with the exception of the Public Service Medical Scheme. Financial support for the Scheme continued to grow until 1992 but was then reduced under an initiative to control spending in this area. The greatest increase in spending has been directed towards Family Planning.

Table 21: County government expenditure on health care services (10,000 yuan)

Item	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Recurrent	42.4	64.7	53.8	55.0	91.7	47.2	97.1	44.2	109.5	37.9
Construction	-	-	14.0	13.8	20.0	10.3	20.4	9.3	24.7	8.5
Public Services	15.6	23.82	22.4	22.1	48.7	25.1	59.5	27.1	81.6	28.2
Family Planning	7.5	11.45	11.3	11.1	29.8	15.4	37.8	17.2	66.1	22.9
Others	-	-	-	-	3.9	2.0	4.9	2.2	7.4	2.6
Total	**65.5**	**100.0**	**101.5**	**100.0**	**194.1**	**100.0**	**219.7**	**100.0**	**289.3**	**100.0**

Source: County Health Bureau

Note that if inflation is taken into account, recurrent expenditure on health care services has gradually declined over the last decade.

Table 22 shows County Government total and health expenditure for selected years. Over the period 1981 to 1992, the annual rates of increase for total and health expenditure were 22.1%. and 27.6%. Health care expenditure as a percentage of total Government expenditure increased from 7.3% to 8.6%.

Table 22: County government health care expenditure

Year	Total Expenditure	Health Expenditure	%
1981	896	65	7.3
1985	1157	97	8.4
1990	2607	184	7.1
1991	2858	220	7.7
1992	3075	289	8.6

Source:County Finance Bureau and County Health Bureau

Table 23: Expenditure of health facilities at county and township in 1990 prices

	1990	1991	1992	Increase (%)
County Hospital	116.6	141.9	168.6	44.7
TCMH	29.2	22.7	26.8	-8.3
TCH	142.0	148.3	167.7	18.2
AES	30.4	27.2	30.7	1.0
MCH	9.1	16.1	25.7	182.3

Source: The County Health Bureau

7.4 Recurrent Health Care Expenditure

Table 24 shows average County Government recurrent health care expenditure *per capita*, and as a percentage of total expenditure.

Table 24: County Government recurrent health expenditure in 1990 prices

Year	Population	Health Expenditure	Health Expenditure per Capita	Recurrent Health Expenditure as % Total Government
1990	23.68	93.16	3.93	3.58
1991	23.95	95.05	3.97	3.40
1992	24.31	105.89	4.36	3.56

Source: County Finance Bureau and County Health Bureau

Table 25 shows the county government recurrent health expenditure that was not associated with the Public Service Medical Scheme and the Family Planning Programme.

Table 25: Expenditure of health facilities by item in 1990 prices (10,000 yuan)

	1990	1991	1992	Increase %
personnel	80.7	88.0	108.2	34.05
drug	149.9	169.1	196.2	30.86
material	12.6	13.8	10.1	-19.49
maintanance	4.4	5.0	7.2	64.07
others	38.9	37.0	41.4	6.40
total	286.5	312.9	363.1	26.73

Source: The County Health Bureau

Average expenditure *per capita* in Xunyi County increased from 2 yuan in 1981 to 4.5 yuan in 1992. County Government health expenditure has decreased from 4.72% of total Government spending in 1981 to 3.40% in 1991. Before 1986, the percentages of Government health expenditure in the County were higher than the average level for other Counties of China, however, health spending still lags behind the national average.

Table 26 shows allocation to the various health sectors in Xunyi as compared with national averages.

Table 26: Allocation of health expenditure in Xunyi County Compared with China

	Xunyi (%)	China (%)
A. Government	**33.5**	**19.4**
- Recurrent	19.3	11.9
- TCMH	1.0	1.0
- Family Planning	7.9	2.2
- Construction	4.27	1.8
- Others	1.0	2.4
B. State Insurance	**29.9**	**44.7**
- PSMS	12.5	7.0
- LIS	17.4	37.5
C. Self Payment	**36.6**	**36.0**

Source: County Health Bureau, Ministry of Public Health

Table 27 shows the distribution of the Xunyi County health care budget between the variety of health care facilities. Of the budgets allocated to MCH and THC, the 'matching funding' of MCH with the UNICEF support from provincial, prefectural and county governments is included in the table. However, the UNICEF funds that were largely used for provision of medical equipments were not added.

Table 27: County Government recurrent health expenditure (10,000 yuan)

	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Hospital	13.20	31.2	9.52	17.7	24.75	27.0	24.20	24.9	24.59	22.5
THC	17.32	40.9	17.63	32.8	29.40	32.1	36.78	37.9	38.26	35.0
Anti-Epidemic	4.37	10.3	5.03	9.4	9.80	10.7	11.39	11.7	14.40	13.2
Drugs	0.25	0.6	2.08	3.9	0.90	1.0	1.01	1.0	1.31	1.2
MCH	1.35	3.2	10.27	19.1	18.50	20.2	9.80	10.1	11.85	10.8
Health School	2.20	5.2	0.40	0.7	0.80	0.9	1.91	2.0	2.20	2.0
Training	1.00	2.4	1.00	1.9	1.00	1.1	1.50	1.5	2.68	2.5
Other	2.67	6.3	7.85	14.6	6.55	7.1	10.50	10.8	14.16	12.9
Total	**42.36**	**100.0**	**53.78**	**100.0**	**91.70**	**100.0**	**97.09**	**100.0**	**109.45**	**100.0**

Source: County Finance Bureau and County Health Bureau

Table 27a: County Government recurrent health expenditure in1990 prices (¥10,000)

	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Hospital	13.20	31.2	8.3	17.7	13.1	27.0	12.3	24.9	11.5	22.5
THC	17.32	40.9	15.4	32.8	15.5	32.1	18.8	37.9	17.9	35.0
Anti-Epidemic	4.37	10.3	4.4	9.4	5.2	10.7	5.8	11.7	6.7	13.2
Drugs	0.25	0.6	1.8	3.9	0.5	1.0	0.5	1.0	0.6	1.2
MCH	1.35	3.2	9.0	19.1	9.8	20.2	5.0	10.1	5.5	10.8
Health School	2.20	5.2	0.3	0.7	0.4	0.9	0.9	2.0	1.0	2.0
Training	1.00	2.4	0.9	1.9	0.5	1.1	0.8	1.5	1.3	2.5
Other	2.67	6.3	6.8	14.6	3.5	7.1	5.4	10.8	6.6	12.9
Total	**42.67**	**100.0**	**46.9**	**100.0**	**48.4**	**100.0**	**49.7**	**100.0**	**51.2**	**100.0**

The greatest proportion of the budget has been spent on expanding the infra-structure for medical care, and preventative and health services at the Township level. Significant changes include the dramatic increase in funding for the MCH Station in 1985, associated with UNICEF funding. The increase of 102,700 yuan gave it a 19.1% share of total recurrent health expenditure. In contrast, County Government financial support to the County General Hospital and the Traditional Chinese Medicine Hospital has been gradually declining over the last decade.

7.5 Analysis of Medical Care Expenditure

Table 28: The PSMS, LIS and Self-Payment

	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
No. in PSMS	3,150	1.5	3,550	1.7	4,051	1.7	4,525	1.9	5,111	2.1
Expenditure (¥10,000)	15.6	22.7	22.4	20.7	48.7	19.3	59.5	18.7	81.6	18.6
Expenditure/capita	49.5	-	63.1	-	120.2	-	131.5	-	159.7	-
No. in LIS	6,300	3.0	7,100	3.3	8,102	3.4	9,050	3.8	10,000	4.1
Expenditure (¥10,000)	15.6	22.6	26.9	24.8	63.3	25.1	83.30	26.2	111.8	25.4
Expenditure/capita	24.8	-	37.9	-	78.1	-	92.0	-	111.8	-
No. Self Payment	197950	95.4	203981	95.0	224652	94.9	226016	94.3	228076	93.8
Expenditure (¥10,000)	37.6	54.7	59.0	54.5	140.4	55.6	175.2	55.1	246.1	56.0
Expenditure/capita	1.9	-	2.9	-	6.3	-	7.8	-	10.8	-

Source: PSMS data provided by county officials, LIS estimated from focus group discussions with households, and Self Payment estimated as a residual item. The expenditures paid by individuals to village health stations and private clinics and for purchasing drugs from pharmacies are not considered in the estimation.

Table 28 shows that the population covered by the Public Service Medical Scheme (PSMS) has risen and expenditure expanded. There was 1.6 times more people covered by the scheme in 1992 than in 1981 and expenditure on the scheme was 4.2 times higher. In 1981 the 1.5%

of the population covered by the PSMS accounted for 18% of medical fees. In 1992 these figures had become 2.1% and 23% respectively. Average fees for those in the PSMS were 120 yuan in 1990, 131yuan in 1991 and 160 yuan in 1992.

7.6 Financing of the County and Traditional Chinese Medicine Hospitals and Township Health Centres

Table 29 shows income derived from service charges and drug sales for the Xunyi County Hospital.

Table 29: Service and drug incomes: county hospital (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Income	%	Income	%	Income	%	Income	%	Income	%
Services	4.37	23.0	13.81	35.0	34.68	34.1	43.11	33.5	60.8	36.5
OP	-	-	-	-	9.21	-	11.06	-	19.2	-
IP	-	-	-	-	25.47	-	32.05	-	41.6	-
Drugs	14.63	77.0	25.66	65.0	66.93	65.9	85.35	66.4	105.7	63.5
OP	-	-	-	-	28.96	-	35.83	-	36.7	-
IP	-	-	-	-	37.97	-	49.52	-	69.0	-
Total	19.00	100.0	39.47	100.0	101.61	100.0	128.46	100.0	166.5	100.0

Sources: County Hospital

Income from total service charges was 7.8 times greater in 1992 than in 1981. Funds derived from the sale of drugs provided 77% of the County Hospital's income and constituted the largest single input. Since 1985, the proportion earned from drug sales has dropped slightly to about 65% of the total.

Table 30 shows the proportions of various sources of income in the County Hospital funds. Since 1985, income from drug sales have provided more than 50% of total income in the County Hospital. The second largest source of income came from medical care, including registration, diagnosis and other treatment fees. At present, the county hospital has A and B altrosound, 200mA X-ray machine, ECG, Fiber-gastric Scope and Urine Automatic Analyzer. As said by the Director of the hospital, they intended to purchase Cerebral Bopography, Blood-Flow Analyzer and 500 mA X-ray machine. The increasing use of more sophisticated medical equipment has in turn increased income derived from patient service charges. Government funding as a proportion of total income has decreased.

Table 30: Sources of income for the county hospital (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Income	%	Income	%	Income	%	Income	%	Income	%
Government	13.20	39.1	9.52	19.2	24.75	19.0	24.20	14.7	24.59	11.9
Services	4.37	12.9	13.81	27.8	34.68	26.7	43.11	26.2	60.80	29.4
Drugs	14.63	43.3	25.66	51.7	66.93	51.4	85.35	51.9	105.70	51.0
Others	1.60	4.7	0.68	1.4	3.76	2.9	11.89	7.2	16.00	7.7
Total	33.80	100.0	49.62	100.0	130.1	100.0	164.55	100.0	207.09	100.0

Source: County Hospital

As shown in Tables 31, drug sales command an even more important source of income for the Traditional Chinese Medicine Hospital and Township Health Centres. Income from drug sales as a percentage of total service charges over the past decade ranges from 80-85% for the Traditional Chinese Medicine Hospital and 60-75% in the Township Health Centres.

Table 31: Service and drug incomes: traditional Chinese medicine hospital and THCs

Year	1981		1985		1990		1991		1992	
	Income	%	Income	%	Income	%	Income	%	Income	%
TCMH			**6.81**	**100.0**	**23.65**	**100.0**	**23.85**	**100.0**	**26.12**	**100.0**
- Services	-	-	1.77	26.0	8.06	37.2	6.04	25.3	6.32	24.2
- Drugs	-	-	5.04	74.0	15.59	62.8	17.81	74.7	19.80	75.8
THC	**41.54**	**100.0**	**55.34**	**100.0**	**125.70**	**100.0**	**136.10**	**100.0**	**164**	**100.0**
- Services	5.83	14.03	9.64	17.4	24.1	19.1	27.45	20.1	33.13	20.1
- Drugs	35.71	85.97	45.70	82.6	101.6	80.9	108.70	79.9	131.63	79.9

Source: County Health Bureau [Note: the Traditional Chinese Medicine Hospital in Xunyi was established after 1981]

Tables 32 and 33 show sources and their proportions of total income for the Traditional Chinese Medicine Hospital and the Township Health Centres

Table 32: Sources of income: traditional Chinese medicine hospital (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Income	%	Income	%	Income	%	Income	%	Income	%
Government	-	-	4.02	25.92	13.90	39.10	4.91	17.07	7.40	22.08
Services	-	-	1.77	11.41	8.06	22.67	6.04	21.00	6.32	18.85
Drugs	-	-	5.04	32.50	13.59	38.23	17.81	61.93	19.80	59.07
Others	-	-	4.68	30.17	0	0	0	0	0	0
Total	-	-	**15.51**	**100**	**35.55**	**100**	**28.76**	**100**	**33.52**	**100**

Source:Traditional Chinese Medicine Hospital

The major sources of income for the Traditional Chinese Medicine Hospital are Government appropriation, drug sales and other service charges. Since 1985, the proportion of Government spending as a source of income has risen by 84%, however, this has been superseded by the rise in revenue from drug sales which in the same period has increased 2.9 times. The increase in revenue from drug sales has been especially significant over the past three years in which there has been a steady decrease in Government funding and income from other service charges.

Table 33: Sources of income: township health centres. (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Income	%	Income	%	Income	%	Income	%	Income	%
Government	17.32	28.9	17.63	23.5	29.40	18.8	36.78	21.2	38.26	18.8
Services	5.83	9.7	9.64	12.9	24.10	15.4	27.45	15.9	33.13	16.3
Drugs	35.71	59.6	45.70	61.0	101.60	65.0	108.70	62.8	131.63	64.6
Others	1.01	1.7	2.01	2.7	1.30	0.8	0.25	0.1	0.82	0.4
Total	**89.07**	**100.0**	**114.89**	**100.0**	**156.40**	**100.0**	**173.18**	**100.0**	**203.84**	**100.0**

Source: County Health Bureau

Income from drug sales and other service charges in the Township Health Centres has risen in recent years while Government appropriation has become less important.

7.7 Expenditure by the County and Traditional Chinese Medicine Hospitals and THCs. Table 34 details the main areas of expenditure by the County Hospital, the Traditional Chinese Medicine Hospital and the Township Health Centres.

Table 34: Expenditure: county and traditional Chinese medicine hospitals and THCs

Year	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
County Hospital										
Staff*	7.65	25.3	16.72	33.9	32.55	28.4	37.16	25.7	43.50	25.0
Drugs	10.95	36.2	19.22	39.0	54.77	47.7	72.26	49.9	90.30	51.8
Material	1.44	4.8	3.46	7.0	10.59	9.2	11.10	7.7	8.20	4.7
Equipment	3.78	12.5	0.25	0.5	3.00	2.6	4.00	2.8	5.00	2.9
Others	6.47	21.4	9.68	19.6	13.84	12.1	24.34	16.8	27.30	15.7
Total	**30.29**	**100.0**	**49.33**	**100.0**	**114.75**	**100.0**	**144.86**	**100.0**	**174.30**	**100.0**
TCMH										
Staff	-	-	2.66	30.0	5.91	21.1	6.65	28.7	10.20	36.8
Drugs	-	-	4.08	45.8	9.80	35.0	13.15	56.7	13.46	48.6
Material	-	-	0.04	0.5	0.48	1.7	0.97	4.2	0.89	3.2
Equipment	-	-	0.01	0.1	0.0	0.0	0.16	0.7	0.33	1.2
Others	-	-	2.11	23.7	11.78	42.1	2.25	9.7	2.84	10.2
Total	-	-	**8.90**	**100.0**	**27.97**	**100.0**	**23.18**	**100.0**	**27.72**	**100.0**
THCs										
Staff	15.71	26.8	22.09	30.2	41.00	29.4	46.07	30.4	58.18	33.6
Drugs	30.17	51.4	34.52	47.3	83.40	59.7	87.23	57.6	99.05	57.1
Material	2.15	3.7	15.00	20.5	13.00	9.3	2.05	1.4	1.37	0.8
Equipment	0.34	0.6	0.90	1.2	1.30	0.9	0.94	0.6	2.08	1.2
Others	10.32	17.6	14.05	19.2	12.70	9.1	15.15	10.0	12.68	7.3
Total	**58.69**	**100.0**	**73.06**	**100.0**	**139.70**	**100.0**	**151.44**	**100.0**	**173.36**	**100.0**

Source: County Health Bureau

* Payment of employees included base salary, subsidies and bonus.

In all the above health facilities, expenditure on drugs constitutes the largest proportion of spending.

- Drug expenditure in the County Hospital reached approximately 50% of total expenditure in the last three years.
- In the Traditional Chinese Medicine Hospital, expenditure on drugs has risen slightly. More significant has been increased payments to health workers.
- With the exception of 1985, drug expenditure in the Township Health Centres constituted more than 50% of total expenditure. Expenditure on health workers' salaries has risen significantly.

7.8 Finance and Expenditure for Drugs and Services

Table 35 shows savings derived from the sale of drugs.

Table 35: Incomes and expenditure: county hospital, TCMH and THCs (¥10,000)

Year	1981	1985	1990	1991	1992
County Hospital					
- Income	14.63	25.66	66.93	85.35	105.70
- Expenditure	10.95	19.22	54.77	72.26	90.30
- Savings	**3.68**	**6.44**	**12.16**	**13.09**	**15.40**
TCMH					
- Income	-	5.04	13.59	17.81	19.80
- Expenditure	-	4.08	9.80	13.15	13.46
- Savings	-	**0.96**	**3.79**	**4.66**	**6.34**
THCs					
- Income	35.71	45.70	101.60	108.70	131.63
- Expenditure	30.17	34.52	83.40	87.23	99.05
- Saving	**5.54**	**11.18**	**18.20**	**21.47**	**32.58**

Source: County Health Bureau

Health facilities continue to gain from the sale of drugs. The mark-up rate for Western drugs sis 15%, while that for traditional Chinese medicines is around 25%.

Table 36 presents the average expenditure by each outpatient per visit on service charges at the County Hospital.

Table 36: Average fees per visit for the county hospital

Year	No. of Visits	Average Service Fee/Visit	Average Drug Fee/Visit	Total	Drug Fee as % of Total
1981	34880	-	-	-	-
1985	50101	-	-	-	-
1990	53335	1.73	5.43	7.16	75.9
1991	50701	2.18	7.07	9.25	76.4
1992	52878	3.63	6.94	10.57	65.6

Source: County Hospital

Between 1990 and 1992, there was a significant rise in expenditure by outpatients on health services. In comparison, expenditure on drugs decreased from 76.4% of total outpatient expenditure in 1991 to 65.6% in 1992.

Table 37 shows that average expenditure per outpatient visit at the Traditional Chinese Medicine Hospital and the Township Health Centres has gradually increased from 7.05 and 6.89 yuan in 1990 to 8.41 and 9.18 in 1992, respectively. The Township Health Centres appear to have witnessed a greater rise in outpatient expenditure than the Traditional Chinese Medicine Hospital.

Table 37: Average outpatient fees per visit in the TCMH and THCs

Year	1981	1985	1990	1991	1992
TCMH					
- No. of visits	-	21047	30727	29537	31059
-Average fee/visit	-	3.23	7.05	8.07	8.41
- % Drug fee	-	74.00	62.77	74.68	75.80
THCs					
- No. of visits	200613	222449	182267	150522	179113
- Average fee/visit	2.07	2.49	6.89	9.04	9.18
- % Drug fee	85.90	82.60	80.83	79.86	79.86

Source: County Health Bureau

7.9 Income and Expenditure for the Anti-Epidemic and MCH Stations

Table 38 lists sources of income for the Anti-Epidemic Station and the Maternal and Child Health Station.

Table 38: Financing for the anti-epidemic and MCH stations (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Anti-Epidemic Station	**4.37**	**100.0**	**15.03**	**100.0**	**12.40**	**100.0**	**20.10**	**100.0**	**29.80**	**100.0**
-Government	4.37	100.0	15.03	100.0	10.20	82.3	16.80	83.6	24.40	81.9
- Service fees	0	0.0	0	0.0	2.20	17.7	3.30	16.4	5.40	18.1
MCH Station	**1.35**	**100.0**	**13.07**	**100.0**	**21.95**	**100.0**	**28.60**	**100.0**	**30.50**	**100.0**
- Government	1.35	100.0	12.27	93.9	18.45	84.0	24.80	81.7	26.60	87.2
- Service fees	0	0.0	2.80	6.1	3.40	16.0	3.80	18.3	3.90	12.8

Source: Anti-Epidemic Station and MCH Station

Prior to 1985, the Anti-Epidemic Station was classified as a 'full-range budget' institute and was fully financed by the Government. Since then, the Station has begun to generate some revenue itself. Government funding, however, remains an important source of revenue.

Table 39: Expenditure by the anti-epidemic station

Year	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Staff	1.08	24.7	1.98	13.2	5.00	55.9	6.87	41.7	8.90	33.3
Drugs	0.00	0.0	0.0	0.0	0.00	0.0	0.00	0.0	0.00	0.0
Materials	0.00	0.0	0.00	0.0	0.23	2.6	0.55	4.6	0.53	2.0
Operations	1.10	25.2	2.68	17.8	0.60	6.7	0.33	2.0	0.80	3.0
Administion	0.00	0.0	0.17	1.1	2.40	26.8	2.60	15.7	5.80	21.7
Other*	2.19	50.1	10.21	67.9	0.72	8.0	6.12	37.2	10.70	40.0
Total	**4.37**	**100.0**	**15.03**	**100.0**	**8.95**	**100.0**	**16.47**	**100.0**	**26.73**	**100.0**

Source: Anti-Epidemic Station

*Other includes equipment, maintenance, construction etc.

Expenditure on health workers' income has increased significantly in addition to rises in capital investment on equipment purchase and construction. The latter constitutes the second largest category of expenditure.

Funding for the MCH Station has followed a similar pattern to the Anti-Epidemic Station, although, in conjunction with a UNICEF programme, the Government has placed the Station as a high priority recipient for funding and financial support has been increased.

Table 40 shows expenditure by the MCH Station. Since 1985, capital investment has accounted for more than 50% of total expenditure. In reverse to the Anti-Epidemic Station, the second largest proportion of expenditure went on health worker salaries.

Table 40: Expenditure by the MCH Station (10,000 yuan)

Year	1981		1985		1990		1991		1992	
	Value	%	Value	%	Value	%	Value	%	Value	%
Staff	0.35	25.9	2.72	21.8	4.56	15.2	6.30	22.7	8.20	25.8
Materials	0.00	0.0	0.23	1.8	0.17	0.6	1.20	4.3	2.00	6.3
Operations	0.77	57.0	0.82	6.6	1.90	6.4	2.00	7.2	2.30	7.2
Administration	0.10	7.4	0.47	3.8	0.80	2.7	0.80	2.9	1.10	3.5
Drugs	0.00	0.0	1.97	15.8	1.90	6.4	2.00	7.2	1.90	6.0
Other	0.13	9.6	6.26	50.2	20.60	68.8	15.50	55.8	16.25	51.2
Total	**1.35**	**100.0**	**12.47**	**100.0**	**29.93**	**100.0**	**27.80**	**100.0**	**31.75**	**100.0**

Source: MCH Station

*Others includes the costs of equipment, maintenance, construction, etc.

8. Summary

8.1 Health and Economic Status

- Figures for 1991 reveal that National Income per capita was 1,073 yuan in Shaaxi Province and 615 yuan in Xunyi County.
- The average income of the rural population in Xunyi County was 420 yuan (based on data from a 1991 household survey).
- The County has been defined as 'poor' by the Provincial Government.
- Major health indicators for Xunyi County were very similar to the Provincial average level, but lower than the national average level.

8.2 Health Expenditure in Xunyi County

- Total health expenditure rose from 3.9 million in 1990 to 6.3 million in 1992. This represented a growth *per capita* from 16.37 yuan to 25.82 yuan.

- Total health expenditure accounts for approximately 2.5% of total GNP. This is lower than the national average.
- The proportion of total expendtiure spent on health services by the County Government and individual households is higher than the national average.

8.3 Health services in Xunyi County

In 1992 there were 340 health facilities in Xunyi County rural health care. Facilities include two County Hospitals and a variety of specialist institutions. In addition, each township is equipped with a Health Centre and each village with a Health Station.

- There are 1018 health workers of which 793 have specialist qualifications.
- The total number of hospital beds in the County is 418.
- The number of licensed health workers per 1000 people was 1.54, compared with an average of 3.73 for the whole of Shaaxi Province.
- The number of hospital beds per 1000 people was 1.72 compared with 2.81 for the whole of Shaanxi Province.

8.4 Health Care Payment Schemes

Although access to basic health care in Xunyi County is relatively good, hospital care is expensive and therefore inaccessible to many peasants. The high cost of hospital treatment has been a major contributor tohigh poverty levels (31%) amongst rural households. Subsidies are available to some Village Health Station workers in order to subsidise self-payment, however, drugs must still be paid for.

Payment for Health Care Services falls into three main categories:

- the Public Service Medical Scheme which, in 1992 covered 2.1% of the population:
- the Labour Insurance Scheme covering 4.1%;
- self-payment, used by the vast majority of the rural population.

8.5 Utilisation of health services in Xunyi County

Curative Services

- In 1981, health facilities conducted 1,088,914 outpatient consultancies. The number increased to 1,285,070 in 1992.
- The total number of hospital discharges rose from 7478 in 1985 to 10621 in 1992.
- In the same period, the bed occupancy rate decreased from 63% to 59%.
- The average length of stay per inpatient in hospitals increased marginally from 6.71 days to 6.96 days.

Preventive Services

- By 1992, 95.5% of children under 7 years had been immunised in the four most important vaccines.
- 90.4% of babies were delivered by 'traditional birth attendants' trained at the MCH Station.
- Approximately 38% of babies were delivered in hospitals or at the Township Health Centres.

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